

1993



A Computer
User's Guide to
Academic & Public
Computing at the
University of Chicago



Priority Phone List

[For]	[Contact]	[Phone or e-mail]
Advice on computing problems (9-5, weekdays)	APC Hotline	702-3111 advisor@midway.uchicago.edu
Computer purchases, price information	Campus Computer Store	702-6086
Computing at Usite, Regenstein or Crerar labs	Usite Computing Assistant	702-7894
Mini-course information, registration	APC Hotline	702-3111 advisor@midway.uchicago.edu
Residence-hall connections — requests	Networking, Telecommunications and Computing Services secretary	702-7615
Residence-hall connections — problems	Networking Technologies	702-7663
Service, installations, upgrades on Macintosh and MS-DOS machines	Campus Computer Store	702-7171
Technical assistance on local networks or software	Your department, division or residence hall's tech-support person	
Technical support on Campus Computer Store products (weekdays)	CCS technical hotline	702-7500 ccstech@midway.uchicago.edu
Departmental consulting and computing policies	APC Director (David Bantz)	702-0822 apc-dir@uchicago.edu

Dial-up Services

Using IBX Digital DOBs, on-campus.....	5-3600
Modems, on-campus (300/1200/2400 bps).....	5-8890
Modems, off-campus (300-9600 bps).....	753-0975

Campus Computer Store bulletin-board system
(8 bits, 1 stop bit, no parity, 2400 bps and up).....702-2146 or 702-3395

APC Management

Academic & Public Computing — Director
Academic Computing Services — Manager
High Performance Computing — Manager
Shared Systems and Network Services — Associate Director

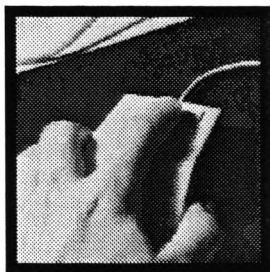
David Bantz
Lawrence Gryziak
Dorothy Raden
Hal Bloom

T a b l e o f C o n t e n t s

APC Resource Guide

1993-94

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What Academic & Public Computing can do for you

Welcome to this year's edition of Academic & Public Computing's *Resource Guide*. We have put together this document in hopes of guiding you to the academic computing resources available both on this campus and elsewhere.

Computers are crucial in many kinds of academic work, ranging from everyday word-processing to more esoteric multimedia and visualization functions. Our mission in Academic and Public Computing (APC) is to bring computing technologies onto campus and put them to academic use.

Some of our basic services include free e-mail services for everyone on campus, and an electronic campus directory. These, and other network services, are quickly becoming major tools for academic pursuits. Many sections in this Guide will tell you more about getting access to networked information resources.

To find out more about these services, read on.

Computing resources are available through many of the University's departments and divisions. Many exist for the specific needs of their faculty and students, but some provide services to the greater University com-

munity. (If you are a campus computing service provider and would like your service listed, please contact us so we can include it in our next Guide.)

As a campuswide organization, we in APC cooperate with various departments and groups on particular projects, such as developing academic software, or keeping departmental machines running smoothly. If we do not provide a service you need, we usually know where you can find it.


Academic & Public Computing helps the general academic community use several publicly available computing "platforms" (collections of hardware, operating-system and application software). These currently include Apple's Macintosh line; IBM's PC and PS/2 series, and compatible MS-DOS machines; most Sun workstations; NeXT computers; and some features of Unix which are found on a wide assortment of campus computers. For greater detail and help in choosing a computer to use, please see:



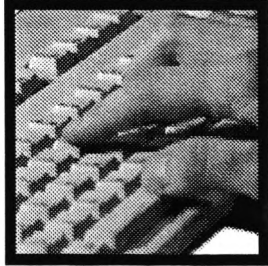
"Academic & Public Computing's overview of recommended computer platforms." *

In this Guide, we hope to answer some of the most basic and common questions that people ask about computing at the U of C, and to describe ways to learn more.

APC is very interested in improving the Resource Guide; please give us feedback on the current version. Direct comments by electronic mail to r-guide@midway.uchicago.edu†, or by Faculty Exchange to "Resource Guide Editor, Academic & Public Computing, 1155 East 60th Street."

* Documents pointed to in this Guide with the symbol , unless otherwise specified, are available in printed form at Usite, as plain electronic text via the campus information service "UCInfo," and in formatted electronic versions on our file server "Room Service." Though information here is subject to change, you can always get the most up-to-date documents from these sources. (For information on Usite, UCInfo, and Room Service, read on.)

† Throughout this Guide, we'll be offering e-mail addresses as ways to contact people; you can recognize these addresses by the "@" symbol in the middle. For more information, see the section on "Communicating via e-mail."



Where to find a computer to use

APC recommends several different computing platforms. Which one is best for you depends heavily on how you intend to use the system. Word processing, for example, is best done on personal systems rather than large, multi-user systems, while statistical work varies by the size and complexity of the problem — for small data sets, a desktop computer is better, while large numbers of cases or variables require the raw number-crunching power of a mainframe.

Another step in choosing a computer is to decide on a type of system to use — whether it is one of the University's shared systems, which cost you nothing, or a desktop computer, which might have a friendlier interface. You can use both kinds of systems either at home or at a public computing site.

By far the most convenient way to do computing at the University of Chicago is on your own machine, with your own software. If you don't have a computer yet, you can buy one at considerable savings from the Campus Computer Store; see "Buying (or adding to) a computer system," later in this Guide. Whether you buy a computer or not, you'll probably want to read this document:

 "Academic & Public Computing's overview of recommended computing platforms."

APC public labs

Among other services we provide, APC manages three computing sites for the campus community. All computing facilities there are free, including printing. It's wise to schedule your work for off-peak times: our sites are quite popular during the day and early evening — and during exam weeks.

APC's Central Users Site — "Usite" — is continuously staffed by Computing Assistants who are happy to help with computing problems. You'll find IBM PS/2's, NeXT workstations, and a variety of Macintosh computers, all with printing capability. You can use any of these computers, or a dedicated terminal, to reach multi-user systems on the campus network.

APC Public Computing Sites

Site	Equipment	Notes	Academic Use
Usite Wieboldt 310, adjacent to Harper Library: 702-7894	11 IBM PS/2's, connected to 5 HP laser printers. 5 Macintosh SE's, 11 Mac II's, 8 Mac IIci's and 7 IIsi's, on a net- work with 4 Apple LaserWriters, 2 AppleShare servers, an SE30 with a DaynaFile drive, a IIsi with Apple scanner, and an Apple gray-scale scanner. 15 NeXT workstations, with 3 NeXT printers and 3 NeXT CD-ROM drives.	Open 8 am–3 am weekdays and noon–3 am weekends. Help available from Computing Assistants on duty at all times.	Word processing, spreadsheet, statistics; diskette recovery, DOS-Mac file conversions; instructional software; class assignments (placed on the servers). Some hands-on classes. PS/2's can be reserved for hands- on training sessions. One Mac is attached to a two- page monitor for priority use by visually impaired people.
Regenstein Joseph Regenstein Library 201: 702-7893	15 Macintosh IIcx's networked with an AppleShare server and 1 Apple LaserWriter. 4 Wyse 75 terminals.	Southeast end of 2nd floor. Same hours as library (need valid ID or one-day pass to get in). No staff on site.	Word processing, spreadsheet, data visualization, class assign- ments.
Crerar John Crerar Library 004: 702-8923	14 Macintosh IIcx's networked with an AppleShare server and 1 Apple LaserWriter.	In basement. Same schedule as library. Staff administrator or assistant sometimes available. Hours vary.	Word processing, spreadsheet; <i>Mathematica</i> . Especially good for work in Physical and Biological Sciences. At certain times, reserved for instructional com- puting; signs will indicate when lab is unavailable for general use. Some hands-on classes.
Harper 406 Classroom	15 networked Mac SE's and 1 lecturer's Macintosh IIci. Projector and sound system.	By appointment.	Teaching of hands-on classes, or classes requiring computer-based presentations.

Usite is located in an annex to Harper Library, at the far west end. During library hours you can reach it through Harper. When Harper Library is closed, you may use the entrance on the Quads, just west of the Harper-Haskell archway by Harper's west tower (this door is locked during the day). Note that access is limited to U of C faculty, staff and students; you may be asked for ID, so be sure to bring yours with you.

Sites listed in the table on Page 4 are also shown on the map inside the cover of this Guide.

Other computing sites

Many U of C departments, divisions, and schools maintain facilities with more specialized software and support than an APC lab can provide. Some are open to members of a specific department (such as Physics or the Law School) or academic category, such as "language faculty" (like the Language Faculty Resource Center, below). Consult your department or instructors to see if you have access to such a facility.

Language Faculty Resource Center: Cobb 211, 702-9772	Language faculty. (Hours: 9-5 and 6-9 Mon. through Thurs.)
Whitman Educational Biocomputing Laboratory (Whitman 107-108, 702-2056)	Preference to BSD faculty and students.

Many residence halls operate computing labs as well.

Other facilities, while they may give preference to their "own" people, are also available to the whole University community. Listed on Page 7 in the table "Other Public Computing Sites" are a few public sites where you can do your computing. (Also see the map inside the cover of this Guide.)

shared (multi-user) systems

quads/ellis/kimbark (public Unix)

Academic & Public Computing operates, among other machines, a cluster of five Sun minicomputers (all newly upgraded as of Summer Quarter 1993). Multi-user services are provided to the whole campus community by three of these five: "quads," "ellis," and "kimbark". (Of the others, midway is a mail/file/software server for the cluster, and uchinews is a Usenet news server for our Suns and all other machines on campus).




All faculty, staff and students can obtain free accounts on our Suns. If you are a new member of the University community, you may receive a letter about the "claims" process. New faculty receive this with check distribution, students at registration. If you need assistance in using the claims process, call our Hotline at 702-3111. If you are a staff member, or you never got a claims letter, or you already claimed your account but have forgotten your username or password, just come in to APC with your University photo ID (this is necessary for security reasons). Our address is 1155 East 60th Street; go to the third-floor reception desk and follow the signs.

Quads, ellis, and kimbark run a form of Unix, a widely-used operating system which does some things — like multitasking and networking — quite powerfully. For a discussion of available software and reasons to use APC's Suns, see:



"Academic & Public Computing's overview of recommended computer platforms."

For information on using quads, ellis, and kimbark, please see:

-  "Logging in to quads, ellis, or kimbark";
-  "Getting started with Unix on quads, ellis, or kimbark: some basic commands";
-  Our manual entitled *Basic Unix on quads, ellis, and kimbark*.

NeXT workstation cluster

Fifteen NeXT workstations can be found at Usite, Academic & Public Computing's main computing lab in Wieboldt 310. These machines are on the campus network, and are also connected to 400-dpi NeXT printers. Accounts are available to all faculty, students, and staff. You will be able to log in with the same username and password as you use on quads, ellis, or kimbark.

In addition to some hard disk space and the normal Unix services, these machines feature full suites of bundled NeXT applications, including NeXT's *Digital Librarian* and *Mathematica*. They also have several kinds of network information services, such as *NewsGrazer* (Usenet newsreading software). While NeXT-cluster usernames and passwords are the same as on quads/ellis/kimbark, home directories are separate; to transfer files between the Suns and the NeXTs, use a file-transfer program.

other shared systems

As we noted above, a number of departments, divisions, and schools maintain their own computing facilities; some of these include Unix workstations and other kinds of multi-user systems. Consult your department or instructors to see if you have access to such a facility.

Other Public Computing Sites

Site	Equipment	Notes	Academic Use
George Walsh Humanities Computing Facility Classics 14: 702-3542	15 Macintosh computers, 2 LaserWriter printers. 1 Apple CD drive and 4 internal CD-ROMs. Apple scanner.	First floor of Classics (southwest corner of the main Quads). Open (most of academic year) 9:30 am–10 pm M–Th, 9:30–5:30 F, 1 pm–6 pm weekends.	Humanities division maintains the facility. Membership available to anyone in the University community for \$5–10 per quarter, plus laser printing charges of 5 cents/page. Drop-in users pay \$2/hour and 10 cents/printed page.
Computer Science Instructional Laboratory Ryerson Annex 178: 702-1082, lab; 702-1175, senior tutor	34 Macintosh computers and 4 LaserWriters, on an AppleTalk network with 3 Mac servers. Scanner and Mac projection equipment. 8 NeXTs and a NeXT printer.	Open Sun–Th 10 am–midnight, F 10 am–7 pm, Sat. noon–5 pm. Tutorial assistance available during Lab hours.	Software includes <i>Microsoft Word</i> , <i>Excel</i> , <i>MacDraw II</i> , & course-specific packages. Programmers will find LISP, C, HyperCard, MacScheme, MPW Pascal, and Think Pascal. Priority given to students preparing Computer Science assignments.
Walker Computing Site Walker 307: 702-7149	Two dozen IBM-compatible PCs (2 286's, 10 386's, 10 486's), eight with Windows; six 486's have internal CD-ROMs. Eight LaserJets, an IBM scanner, and an outgoing fax. 9 Mac Classics and 3 LaserWriters. One Mac and one MS-DOS machine are "express stations," with a dedicated printer and a ten-minute limit.	Staff member available during hours: M–Th 8:30am–10pm, F 8:30am–7pm, Sat. 11am–7pm, Sun 11am–10pm. (Reduced hours in Summer Quarter.)	GSB Computing Services gives priority to MBA students and GSB faculty/staff, but other members of the University community welcome. No printing charges at present.
Edelstone Computing Site 6030 S. Ellis, room A-240: 702-8707	10 IBM-compatible 386 PCs and 2 486 PCs. (Two run Windows.) One CD-ROM and an IBM scanner. Six Macs. One Mac and one MS-DOS machine are "express stations," with a dedicated printer and a ten-minute limit.	Staff member available during hours: 9am–7pm M–Th; 9am–5pm Fri; 12pm–5pm Sat. Need valid ID or entry pass to get into building.	GSB Computing Services gives priority to MBA students and GSB faculty/staff, but other members of the University community welcome.
Language Laboratories and Archives SocSci room 4: 702-7045	7 Macintosh IICx and 2 IBM PS/2 Model 57sx computers. Other computer facilities are available for development and linguistic research. Contact the Labs for further information.	Open 9 am–8 pm M–Th; 9 am–5:30 pm Fri; 1–5 pm Sun. Closed Sat.	All faculty, students, and staff (with valid ID) studying linguistics and foreign languages, including English as a foreign language.
Social Sciences & Public Policy Computing Center — SPC² 1155 E. 60th Street, rooms 041-062: 702-0793	Network of Unix-based workstations/minicomputers (HP, Sun, Apollo, and IBM). A number of MS-DOS microcomputers. One cluster of Macintoshes.	In basement of 1155 building. Open 24 hours; need valid ID or entry pass to get into building. Advisor in Room 060 (702-6088), available M–F 9–5. Remote sites in Judd, Kelly/Green/Beecher, Pick; call SPC ² for info.	Supports graduate students and researchers from SocSci Division, Public Policy, and National Opinion Research Center. Others may use the facility if machines are available (sign up in rm. 049), but may be bumped for someone with priority. Emphasizes data analysis and statistical processing: Unix and MS-DOS versions of SPSS, SAS, STATA, and other programs.



How and where to find software

If you're new to computing, you may not know about the many categories of things you can do with computers. Various software packages can help you write, create pictures and graphs, organize information, perform academic tasks (such as statistical analysis and visualization), do work in a specific discipline (such as biology or music), and teach or learn in a classroom setting.

APC recommends a number of software packages for various systems. For details, see:



"Academic & Public Computing's overview of recommended computing platforms."

what to know about software licenses

You'll probably want to buy some commercial software to get started with your work (many people start with a good word-processing package, for instance).

Aside from commercial packages, however, a variety of software can be found for less than a full retail price. Categories of no- or low-cost software include "public-domain," "freely distributable," "shareware," and packages which are "site-licensed" for a low fee.

The authors of truly public-domain software have given up all rights to their programs, so you may do whatever you like with them. Much of the software that is mistakenly called "in the public domain" is in fact copyrighted, but freely distributable: the author retains rights over the program and may specify, for example, that no one may sell it for a profit, though it is permissible to charge a fee to cover copying costs. A large class of freely distributable software, known as "shareware," may be copied under the restriction that if you use the program for more than a trial period, you send the author some money, in return for which you may get updates and printed documentation; by paying shareware fees, you help to guarantee that such software will continue to be produced.

Site-licensed software comes in two basic types: programs that the University can sell to individuals at a large discount, and programs for which the University has paid a single fee to make many copies at no additional cost. The University of Chicago has several site licenses.

Please be familiar with the licensing terms of all your software. APC cannot and will not help you with software you don't have the right to use.

See the brochure reprint:



"Using software: a guide to the ethical and legal use of software for members of the academic community."

where to find University-licensed software

APC makes several packages for the Macintosh available to University users at no charge, under our site license. These include *MacX* and *SU-Mac/IP*, which you can find on Room Service; see "where to find freely-copyable software" below. The latest versions of Macintosh System 7 are also available on Room Service, though printed System 7 documentation must be bought through the Campus Computer Store.

You can get the site-licensed packages *Minitab* and *Systat*, for the Macintosh or MS-DOS machines (including Windows versions), from the Campus Computer Store.

The department of Information Technology Retailing & Licensing (the parent of the Campus Computer Store) handles most other site licenses on campus. The majority of these licenses are managed by Tomohiro Higa, Manager of University Site Licensing (702-6091, or send electronic mail to higa@midway.uchicago.edu). Available software includes: *SAS-PC* for MS-DOS and Windows; *IDL* for Vaxen and Suns; and language compilers, graphics/visualization software, and academic tools for Sun, IBM RS/6000, DEC, and SGI workstations.

APC maintains a list of licenses and software available to campus users; you can find this list, and some software, via the campus information service called "UCInfo." (For more information, see "Using networked databases, archives, and directories.") You can also find a recent printout of this list at Usite, and at the Campus Computer Store. If you have questions or suggestions about site-licensed software, contact the APC Hotline (702-3111, advisor@midway.uchicago.edu).

where to find freely- copyable software

Room Service

File servers are computers which share information with other machines on a network.

The major campus file server you should know about was originally designed for residence-hall users, and thus named "Room Service." (You may have access to other campus file servers as well.) You can reach Room Service from any Mac on the campus network running AppleShare software, or any MS-DOS computer with PhoneNet Talk software.

To connect from a Macintosh, use your Chooser desk accessory to select the AppleShare device icon, and indicate the AppleTalk zone containing the server you want: in this case, the "CompCtr" zone. Scroll through the file server list and select "Room Service." A dialogue box will appear; choose "Guest Access" and click "OK." When asked which volume you want, choose "Jeeves."

To connect from an MS-DOS computer, use your PhoneNet Talk desk accessory to select "AppleShare" in the Type box. Select the CompCtr zone, then type the number given for "Room Service." Press F2 to begin logging

in, then select "Guest" status. Press F2 to confirm your entries and log in. Finally, select the volume "Jeeves" and assign it a drive letter.

Please don't select any volumes to connect automatically at startup; doing so creates extra network traffic and makes things slower for everyone. You should only connect to Room Service when you actually plan to copy something.

For more information, please see:



"Connecting to the residence halls data network."

Files currently on Room Service include:

- current Macintosh system software;
- various communications software for Macintosh and MS-DOS computers;
- virus-fighting software for Macintosh and MS-DOS computers;
- a variety of other free and site-licensed software for Macs;
- APC documentation, including this Guide and its supplementary documents;
- Other information, such as Campus Computer Store price lists and the Registrar's *Time Schedules*.

licensed software for check-out

APC operates a "KeyServer" system to provide controlled access to more than a hundred software packages for the Macintosh. The KeyServer is an automatic check-out system, which limits the number of people "checking out" each program to the number of copies which we own, so we can observe copyright requirements and still provide you access to applications you might not otherwise have a chance to use.

Software on our KeyServer includes high-end graphics and desktop publishing programs, data visualization packages, instructional software, and so on. Don't rely on these being available at any given time, as someone else may have checked out the program you want to run. Because we try to provide a great many software packages which you might find useful, APC is not able to maintain expertise in all of them; accordingly, we may not be able to answer questions about some KeyServed applications. If you'd like documentation for KeyServed software, though, you can find many of the manuals at Usite.

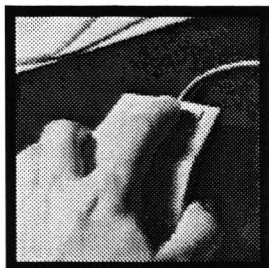
The only way to gain access to our KeyServed applications is to use a Macintosh connected to the campus network. For more information, see:



"Obtaining and using Macintosh software from the KeyServer."

APC Sun software archive

APC maintains an archive of miscellaneous software on our Sun cluster. Packages available include *OzTeX*, a free implementation of TeX for the Macintosh. You can download software in this archive directly from quads, ellis, or kimbark, using your favorite communications package, from the directory /usr/local/share/ftp/pub. The archive is also accessible via anonymous FTP to midway.uchicago.edu; see "access services: retrieving information sources — FTP, Ph, Telnet," later in this Guide.



Support for research and teaching: facilities and services

*research and
high-performance
computing facilities*

PSNCL (rainbow/rainbow2/trex/umbra/jellybean/gumdrop)

Some researchers need more computing power than is available on our public Suns or departmental machines. If you're in such a position, you should obtain an account on the PSNCL group of APC machines. These consist of a mixture of number-crunching and visualization computers from Silicon Graphics and Sun Microsystems. All machines are located in the Physical Sciences Numerical Calculation Laboratory (PSNCL) and are freely available to anyone in the University research community.

For more information stop by the Research Institutes (5640 S. Ellis) for a tour, or contact the facility director, R. Michael Townsend, at 702-9349 (rm-townsend@uchicago.edu).

The following three machines are used for fast or large computations; user jobs (compiled code, such as Fortran, C, or Pascal) and other software (such as Mathematica and S) can exceed hundreds of megabytes of memory if necessary:

rainbow: A Silicon Graphics 4D/380 computer with 8 CPUs, ~ 63 Mflops, ~ 206 MIPs, 128MB memory, and more than 5 Gb of combined public and private disk; software includes *Mathematica*, *S*, *Gaussian 92*, and *Maple*.

rainbow2: A Silicon Graphics 4D/280 computer with 8 CPUs, ~ 54 Mflops, ~ 177 MIPs, 120 Mb memory, GTX graphics, and 4 Gb of combined public and private disk.

trex: A Silicon Graphics Power Challenge XL computer with 6 CPUs, ~ 120 Mflops, ~ 510 MIPs, and 512 Mb memory; it has more than 20 Gb of combined public and private disk. This machine is a joint venture between private research groups and public facilities (presently about ten percent of the machine is public).

Two changes in the configuration of *trex* are scheduled to happen this year. In Autumn Quarter, the six CPUs will be replaced by six processors approximately 1.5 times their present speed (that is, each processor will be capable of ~ 30 Mflops). Near the end of the year, they will be replaced with six special TFP processors capable of ~ 300 Mflops each.

We hope that this machine will continue to grow; its ultimate hardware capacity vastly exceeds the above specifications. If you'd like to partake in this very cost-effective venture, contact the facility director.

The following machines are for interactive visualization/windowing environments. Applications include image processing; animation; molecular modeling; real-time zooms, pans, and rotations of 3D rendered surfaces; windowing environments for code development, X11 graphics, and more. In addition to a Sun Sparcstation 1+ computer, **umbra** (and X stations named "lollipop" and "bonbon"), visualization/windowing machines are:

jellybean and **gumdrop:** Silicon Graphics Indigo R4000 Elan computers, with high-resolution (1280x1024), 24-bit color, 19" monitors. These machines are capable of 120K Polygons/sec, 1M 3-D vectors/sec. They also have 16 Mflop processors, so combined graphics and fairly high-powered calculations are also possible.

Please note that *jellybean's* old function of creating videos has been superseded by the Visualization Studio; see below.

Visualization Studio

A visualization studio currently located in the Accelerator Building (5620 South Ellis, room 201) is available to faculty and their students. Hours are 9:30–3:30 weekdays, but appointments are recommended.

Staff at the studio can assist faculty in graphics design and visualization of research results, design of interactive multimedia software for instructional or demonstration purposes, and final editing and composition of images on videotape.

This facility has a networked Mac Quadra 950 with 40Mb RAM, 2 Mb VRAM, a NuVista+ graphics board and RGB-to-NTSC encoder, and a Diaquest animation controller. A professional-quality Panasonic 7650 player, 7750 recorder, a 770 multi-event editor, and a time-code reader/generator are available for making 1/2-inch S-VHS and VHS videotapes. The studio also has a Lexmark color PostScript printer, an Apple color scanner, an Apple multispin CD-ROM drive and a Wacom digitizing tablet. Also available is a Panasonic 3-CCD broadcast video camera with a portable VCR.

The Mac Quadra has the Apple QuickTime extensions to the operating system, which allow integration of sound, video and animation into a document; QuickTime comes with programs for playing and editing movies, converting various types of files into QuickTime movies, and compressing files. *MacroMind Director*, *Diva Videoshop*, *Adobe PhotoShop*, *Adobe Premiere*, *Mac Renderman*, *Video Fusion*, *Cinematic*, *Opcode Audioshop*, and *StrataVision 3D* are also provided.

Spyglass scientific data visualization software is installed on the Mac Quadra (*Spyglass* and *IDL*, the Interactive Data Language, are also available on the Visualization Studio staff's Indigo).

The lab is staffed by Chad Kainz, a video/graphics specialist experienced in visualization software design and video production. For more information, contact the Visualization Studio at 702-9944, Chad Kainz at 972-6236, or Dorothy Raden at 702-7453; you can also send e-mail to vlab@midway.uchicago.edu.

the MVS system

The Amdahl 5990 — a large mainframe running the MVS/XA operating system — is run by Networking, Telecommunications and Computing Services (NTCS). It is primarily used for administrative functions, but also provides researchers a facility for heavy data-crunching. It also provides access to large-scale printing on two high-speed Xerox 9790 laser printers.

To use the MVS system, faculty and registered students can open free Personal Computing Accounts with Networking, Telecommunications and Computing Services; these accounts are valid for one year, and then must be renewed. For information on opening MVS accounts, and on using one once you've opened it, contact David Baird of NTCS, at 702-7161 (d-baird@uchicago.edu).

supercomputing

Some problems take so long to calculate or require so much memory that they can only be run on state-of-the-art supercomputers. Since these cost much more than a single university can normally afford, the National Science Foundation and the Department of Energy provide some access to high-performance computing for research and education in various centers around the country.

If you need more speed or memory for your research than you can get on campus, we can help you apply for time on machines at centers affiliated with the U of C. These include the National Center for Supercomputing Applications, in Champaign-Urbana, and the Cornell National Supercomputing Facility. In addition, Argonne National Laboratory, closely associated with the University, maintains an Advanced Computing Research Facility specializing in parallel computers.

For technical details and information on applying for time, contact APC's technical liaison with these three centers, Dorothy Raden, at 702-7453 (doro@midway.uchicago.edu).

APC Resource Lab

If you have an academic project for which the equipment at our public sites is insufficient, you may find APC's Resource Lab helpful. The Resource Lab has specialized equipment for Macintosh, MS-DOS and Sun platforms.

research and instructional support services

The Lab's Macintoshes include a Quadra 700, with a NEC PC-VCR for frame grabbing. Mac peripherals include: a 600-Mb drive for temporary backups; a Sony 21-inch monitor; both a color and a black-and-white scanner; a DaynaFile 5.25-inch floppy drive, and high-density floppy drive; an HP PaintJet color printer; and a Pioneer Laservision laserdisc player.

One of the several IBM-compatible PCs is a Dell 486 ME dx2/66, with an S/VGA monitor.

Sun workstations currently in the Lab are a 3/60, a Sparcstation 1, and a Sparcstation 2.

To make an appointment to use the Resource Lab, call the APC Hotline at 702-3111, or send electronic mail to advisor@midway.uchicago.edu.

APC computer classrooms

Academic and Public Computing maintains a classroom in Harper 406, in the west tower. The classroom has a Mac Ilci for instructors, which works with a color overhead projection system. Fifteen Mac SEs are available for student use. The Macintoshes are connected to the campus network via LocalTalk.

When APC is not using the classroom for computing mini-courses, other groups can use it for instructional computing. Contact Christopher Barnard at 702-3133 (c-barnard@uchicago.edu) to discuss a time for you to teach. During tenth and finals weeks of each quarter, some or all of the SEs may be moved to Usite for public use, so check to see what will be available if you plan on teaching at the end of a quarter.

APC also has a fully networked IBM PS/2 classroom at Usite, with twelve PS/2's and a lecturer's machine. As these machines are also available for public use, the times available for instruction will be more limited than for the Harper 406 classroom — so you must make reservations at least one month in advance.

departmental consulting

APC can provide advice to your department in areas such as:

- setting up networking, e-mail and file servers;
- establishing departmental/lab procedures for maintenance and backups;
- using computing in your courses or research.

For further information, please contact the Director of Academic & Public Computing, at 702-7167 (apc-dir@uchicago.edu).

file transfer and conversion

You can move data between different computers and different kinds of software, and change its "look and feel." With the explosion of networking and accepted standards for communicating between computers, there are a number of ways to move data between different kinds of hardware and operating systems. Various software packages also allow conversion between file formats used by many popular applications.

Some file transfers and conversions can be done at Usite. One Macintosh there has been designated the "transfer Mac," because you can use it to transfer and convert files between some Macintosh and MS-DOS formats. Consult a Computing Assistant for details.

Be aware that when you merely move, or **transfer**, a file between computers, you won't be changing the format of the file. If you want to, say, make a database or word processing file useable by an entirely different program, you'll need to use additional software to **convert** it.

If you are working on a machine connected to the campus network, you can transfer files using the "FTP" access service (see the section "Using networked databases, archives, and directories" later in this Guide). For dial-up and direct serial connections, APC supports the Kermit file-transfer service on quads, ellis, and kim-bark. A variety of Macintosh and MS-DOS communications packages support FTP (including *NCSA Telnet*, *SU-Mac/IP*, or *Fetch* on the Macintosh, and *PC/TCP* on MS-DOS machines) or Kermit (including *MicroPhone Pro* and *VersaTerm Pro* on the Macintosh, and *MS-DOS Kermit* on MS-DOS machines). Some of these packages are free for use on campus, some are commercial; see the "How and where to find software" and "Buying (or adding to) a computer system" sections of this Guide.

For information on other transfer and conversion options, call the APC Hotline at 702-3111.

scanning

Converting hardcopy into electronic form can be quite a task. If you're stuck with typewritten or printed text that's too long to type in, you may wish to use a scanner with optical character reader (OCR) software to "read" it in. Both Usite and the Walsh Humanities Computing Facility (see "Where to find a computer to use") have scanners with OCR software; Usite's is a gray-scale Apple scanner. For special academic uses, you can also make an appointment to use the black-and-white or color scanners in the APC Resource Lab.

The Project for American and French Research on the Treasury of the French Language — generally known as ARTFL — has experience in converting huge texts to electronic form. If you have large bodies of text to convert, contact Mark Olsen of ARTFL, at 702-8687 (m-olsen@uchicago.edu).

For additional information on OCR services, call the APC Hotline at 702-3111.

software development

If you find that the software available for various campus systems doesn't meet your needs, you might want to write your own programs. APC makes several programming environments available, including C, C++, Pascal, and Fortran on quads, ellis, and kim-bark. (If you are interested in other languages, you may wish to look into your department's resources.)

If you are an academic software or database developer connected with the U of C, we encourage you to contact Academic & Public Computing about our development support; we can provide access to valuable technical information. Also, depending on the nature of the project, we can advise you on designing and implementing software applications; for information, call the APC Hotline at 702-3111.



Connecting to the campus network

campus network services

The University campus is united by a digital network which connects dozens of buildings to each other, and also to a world-wide network of computer systems called the Internet. (Between buildings, the “backbone” of the campus network runs over optical fiber, coaxial cable and leased serial lines.) Within most of the connected buildings, the network has been extended (with local area networks) to reach each room — bringing worldwide digital communication to you at your own desk.

This network, which unites hundreds of campus computers of all sizes and shapes, makes it easy to send and receive electronic mail, access shared files, log in to multi-user computers, and print to remote printers. It also provides access to the University's online library catalogue, online campus directory, and the campus information service “UCInfo.”

Through the campus network, you can also use the information access services of international networks. These include: Gopher and WAIS for retrieving files from servers; anonymous FTP for file transfer; Telnet, for access to services at other institutions; and mail and news software, for using electronic mailing lists, discussion groups, newsletters, and journals.

If your computer is not network-connected, you can still use most of these services by first dialing in to a public shared system on the network, using a modem and communications software such as *VersaTerm Pro* or *MS-Kermit*. (For many people, however — especially Macintosh users — this is less convenient, and harder to understand.) If you choose to dial in, see “Getting started” below.

To learn more about networked information services, see “Using networked databases, archives, and directories” in this Guide.

getting started

Many campus buildings are wired for the network. If your building isn't, your department can request that Networking, Telecommunications and Computing Services (NTCS) evaluate your networking needs; for information, call Bob Vonderohe of NTCS at 702-7658. For details on equipment and software, see the "Networking" sections in:



"Academic & Public Computing's overview of recommended computing platforms."

If you live in a networked residence hall, you can connect your computer via LocalTalk or Ethernet for a small annual fee, and use such facilities as central LaserWriters in your residence hall. For details, see:



"Connecting to the residence halls data network."

You can obtain *NCSA Telnet* or *SU-Mac/IP* (for Macintosh network connections to shared systems), or *MS-DOS Kermit* (for MS-DOS dial-up connections to shared systems), free of charge from APC's file server "Room Service." See the "How and where to find software" section of this Guide.

You can buy commercial packages such as *VersaTerm Pro* (for Macintosh dial-up connections) and *PC/TCP* (for MS-DOS network connections) at the Campus Computer Store; the Store also provides support for *PC/TCP* users. See "Buying (or adding to) a computer system," later in this Guide.

To dial in to shared systems on campus:

- Using a modem, off-campus (300–9600 bps): 753-0975
- Using a modem, on-campus (300/1200/2400 bps): 5-8890
- Using an IBX digital DOB, on-campus (300–9600 bps): 5-3600

For further instructions on logging in to APC's Suns, or other systems on the campus network, see:



"Logging in to quads, ellis, or kimbark."

If you have an account on our research systems (rainbow, rainbow2, trex, umbra, jellybean and gumdrop), the Usite NeXT cluster, the MVS system, or a machine run by your department, you should consult the instructions given to you when you opened your account.



Communicating via e-mail

Electronic mail allows you to communicate with friends and colleagues by computer across campus or at other universities and commercial sites around the world. E-mail is increasingly used for everything from informal conversations to scholarly communication and research collaboration. You might prefer electronic communication over the telephone or traditional mail (at least for some uses), because it combines the speed and spontaneity of telephone conversation with a precise written record to which you can respond or refer at will. Since it is possible to connect to your electronic "mailbox" using the campus network, another Internet site, or a modem and telephone line, you can read mail from home, at other campuses or research sites, or from a phone while traveling.


Of course, you need software to use electronic mail. You also need a way to connect to other computers to send and receive mail, and you need to have an "address" or "mailbox" where others can send you mail. Academic & Public Computing provides all of these essentials free of charge for all faculty, students and staff. Your department may have its own recommendations and policies for e-mail; if so, the departmental e-mail system can work together with APC's campus-level services to give you access to the rest of campus and the world-wide Internet.

e-mail software


All e-mail programs provide a basic set of functions: sending, reading, replying to, and saving messages. Some have special features beyond this; these might involve editing messages, handling and sorting saved messages, maintaining mailing lists, sending "enclosures" (such as a non-text file) with a message, and customizing the way you interact with your program.

Some departments use commercial software which provides great ease of use within the department. However, for broad access to the world-wide community of Internet users and for the flexibility of using e-mail from office, home and "on the road," we recommend and support Post Office Protocol, or POP. At the U of C, POP software running on your Macintosh or MS-DOS machine automatically works with the campus mail servers for access to the campus and the rest of the Internet. What's more, such software provides access to your mail whether you connect to the mail server over the campus network or through a dial-up connection to the campus mail server. Best of all, the POP software which APC recommends is all free!


Eudora (from the University of Illinois, Urbana-Champaign), for the Macintosh, comes in two versions — one for direct network connections and one for dial-in. The software is available from Room Service; see “How and where to find software” earlier in this Guide. You can also find it on the Macs at APC’s public lab Usite (see “Where to find a computer to use”). For more information on *Eudora*, see:


 “Electronic mail on the Macintosh using *Eudora*: a brief introduction.”

NUPop, from Northwestern University, provides equivalent functions for MS-DOS users. It is available in the software archive on APC’s Suns, and also at Usite. For more information, see:

 “Electronic mail using *NUPop*: a brief introduction.”

If you’d like to handle your mail on a Unix system, you should probably start by consulting the internal help, and online manual page, for your preferred mail software. APC supports the mail programs *mm* and *mail* on our Suns; *mm*, particularly, has excellent internal help. For more information on these two packages, see:

 “Using *mail* on campus Unix systems” and

 “Using *mm* on quads, ellis, and kimbark.”

e-mail addresses and the Online Directory

The most common problem in using e-mail is finding someone whose address you don’t already know. If you know that someone is at State U., which of State’s many machines might they be on? Which username do they use on that machine? Do they even use electronic mail?

Using a bit of detective work, it is often possible to locate machine names, and even a username on a given machine, though both these things change with some frequency. The third question is sometimes the most difficult to answer. Usually, the only way to find the answers you need is to ask (the old-fashioned way: via postal mail, telephone, or in person). This may seem a bit inelegant in the electronic age, but there are no universally used directories, and no guarantees that your correspondent will read e-mail. Once you’ve established a correspondence, however, e-mail is a rapid and powerful way to communicate.

The usual form of an Internet e-mail address is “name@computer.institution.domain”. Since the mail server run by Academic & Public Computing is a Sun computer called “midway”, mailbox names provided by APC have the form “someone@midway.uchicago.edu” (for example, “advisor@midway.uchicago.edu” is a mailbox read by APC Hotline staff).

APC can assign you a unique mailbox you can use to receive e-mail through midway, though you may use an entirely different mailbox on your department’s e-mail system. APC also provides a unique alias (such as “a-student@uchicago.edu”) which can be used to point to your preferred address; you may, if you wish, also choose a unique alternative “nickname” (like “scholar@uchicago.edu”). This service is handled by the Online Directory, which translates aliases or nicknames to mailbox names and forwards mail to the appropriate place. The best feature of the Directory is that you can give out a permanent e-mail address: if your mailbox on campus changes, you need only update your mailbox name in the Directory, and mail to your alias or nickname will automatically be forwarded to your new location.

Note, though, that for mail to your alias to be forwarded to the e-mail system you use, you’ll need to register your preferred mailbox in the Online Directory. You can do this directly, yourself, by using the program *ph* (on APC’s Suns, or the version called *Ph* on a Macintosh). You may have this done for a group or department by arrangement with APC; for assistance, contact Hal Bloom at 702-7155 (hal@uchicago.edu).

In the future it may be possible to have e-mail messages sent to your fax number rather than an e-mail address. It may even be possible to have messages relayed to voice mail (in a computer-synthesized voice, of course!).

If you choose neither to use the campus mail server nor to register a departmental mailbox, do nothing. No e-mail address will appear for you in the Online Directory. Mail addressed for whatever reason to your alias or a unique form of your name (such as your-name@uchicago.edu) will be returned to the sender with a message that no e-mail address is registered for such a person.

For more on the Online Directory, please read "the online campus directory..." in the "Using networked databases, archives, and directories" section of this Guide.

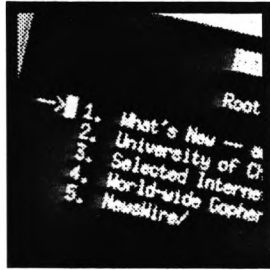
more information

After reading this section, you'll also want to read our documents on electronic mail; these cover such topics as addressing; finding correspondents; various types of mail software; and other mail-related issues. Begin with this document:



"An introduction to electronic mail at the University of Chicago."

If you get stuck trying to address mail to someone or have other questions about e-mail, drop a line to the APC Hotline at advisor@midway.uchicago.edu. (We can also be reached by phone at 702-3111, but if your question involves undeliverable mail, it's best to mail it to us, attaching the headers of your returned message.)



What is networked information?

definitions

A network consists of groups of computers able to communicate among themselves. Networks can be as small as an office local-area network of two or more microcomputers — or as large as the worldwide Internet, connecting tens of thousands of mainframes and minicomputers. The high-speed campus network joins hundreds of computers of widely varying sizes and provides one method of access to those computers.

Through the campus network, you have access to the services of several international networks. Here are three you may hear about:

- Internet: a high-speed, worldwide network. Using Internet addresses, you can send electronic mail to thousands of educational and commercial networks around the world; using Internet access services, you can find and collect many different kinds of networked information.
- BITnet: one of the older networks enabling University of Chicago users to communicate with computers outside the University, chiefly by electronic mail.
- Usenet: a motley collection of many thousands of computers which send each other “news.” Usenet’s “newsgroups” are like electronic magazines where people can read and exchange information (including opinions and software).

A server is a computer which shares information with other computers on the same network. Servers, which typically are quite fast and have large hard disks, can provide text files, software, mail, news, and a variety of other information. Some networks have several servers. (Examples at the U of C include the Unix mail/software server `midway.uchicago.edu`, and the AppleShare file server Room Service.)

*kinds of information
sources*

A great deal of information is now published electronically by universities and research institutions.

Networked information can take the form of electronic conferences, mailing lists and discussion groups devoted to specific topics; these are covered in the following section, "Subscribing to networked information."

Other information sources come in many forms, including bibliographic indexes to publications, complex databases, and archives of numeric data and textual documents (both abstracts and full texts). These sources are the focus of the section "Using networked databases, archives, and directories."

Some information sources are located on the University campus. Others are located outside the University but can be reached through the Internet, using a variety of information access tools supported by APC.

*what you need to access
networked information
sources*

In all cases you will need a way to reach the campus network. The fastest and easiest way is to use your own microcomputer or workstation, connected to the rest of campus with an Ethernet card or through a local-area network. If you are in an office (or a home) which the campus network does not reach, you can still use some access services by dialing in with a modem to a networked computer.

Because networked information sources are spread geographically and distributed through different information access services, you will need ways to locate appropriate sources of information, such as directories and catalogues; we call these aids to locating sources "metasources." Some metasources are part of the access services themselves, while others are separate documents; APC attempts to identify all of them and make them easily available.

You will also need, for each information access service, a way to use it — a program (called client software) which acts as a "client" of that service. The client software is, unfortunately, different for each access service. APC will make client software available for the kind of personal workstation you use (such as Macintosh, MS-DOS, or Unix) to reach each access service.

Finally, you may need introductory documents for the information access services which you wish to use. These documents state what client software is required and available for that service, and how to begin using the service.

*list of information
sources*

Listed on the following page are some common sources of information, and the ways to locate and reach them. We'll explain some of the metasources and access methods in later sections.

Common Sources of Information

Sources	Metasources	Access methods
<i>Sources you can "subscribe" to</i>		
Electronic discussion lists, journals, newsletters	indexes in Gopher	mail readers
Newsgroups	indexes in Gopher	newsreaders
<i>Sources you can look into</i>		
Library catalogues, bibliographic databases	various directories in Gopher; WAIS	usually Telnet; Gopher
Published archives and rosters of texts, data, and software	Archie (for filenames); indexes of "readme" and "00index" files	FTP; AppleShare
Campus information systems	Gopher	Telnet
Scientific databases	none	Telnet, Gopher, WAIS
Online directories and other "white pages"	Gopher	Gopher; Ph
Reuters newswire service	none	Gopher
Oxford English Dictionary	none	special tools on campus Unix and Macintosh computers



Subscribing to networked information

This chapter discusses information resources you can subscribe to. To locate resources which interest you, you can use the campus information service "UCInfo," which provides indexes describing many mailing lists and Usenet newsgroups. (For more on UCInfo, see "Using networked databases, archives, and directories," later in this Guide.)

mailing lists and listservs

An electronic mailing list is simply a group of people who all receive the same mail. (To participate, you need only an electronic mailbox, available from APC; see "Communicating via e-mail," above.) There are hundreds of such lists on scholarly topics alone, ranging from astrophysics to folklore to art criticism to brine shrimp. Some lists take the form of electronic journals and newsletters — edited, often refereed, serials; these cover subjects such as Greek and Latin classics, astronomy, and primate research.

To join a mailing list, you send a request to one address; to send mail to everyone on the list, you direct it to another address, from which it is automatically forwarded to each subscriber. Mailing lists are of two main types: automated lists, run with **LISTSERV** and similar software; and human-managed mailing lists, which use the same software as most other electronic mail. The main difference, for subscription purposes, is that **BITnet/LISTSERV** subscriptions are usually automated, and Internet list subscriptions are usually handled by humans.

For more information on joining mailing lists, see:



"An introduction to electronic mail at the University of Chicago."

To find lists of the mailing lists available, use the information service UCInfo (see "Using networked databases, archives, and directories" in this Guide).

Usenet news

The University is part of Usenet, a set of computers around the world which exchange information in the form of individual messages, or “articles,” categorized with one or more universally-recognized labels, called “news-groups.”

In Usenet newsgroups (something like electronic magazines), people can read and write articles on subjects ranging from bicycling and movies to philosophy and politics to hundreds of technical areas. You can access Usenet as soon as you’re comfortable with computing on any campus machine with access to news — including APC’s public Unix computers quads, ellis, and kimbark (or ask your own system administrator). For more information on Usenet news, begin with this document:



“An introduction to Usenet news at the University of Chicago.”

“netiquette”

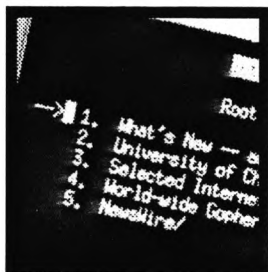
As a matter of politeness, you should keep in mind that electronic communications (such as electronic mail and Usenet discussions) retain much of the immediacy of live conversation, yet lack much of the social context — intonation, gesture, facial expression. This makes it easy to misunderstand others’ intended meaning. You should think carefully about how each electronic communication will be interpreted, before you send it. In the culture of network users, conventions have arisen to help writers make their intentions clear to readers; these include parenthetical comments, and smiley faces (:-) and (-: and variants — if they don’t look like smiley faces to you, tilt your head to the side).

For tips on e-mail netiquette, see the document “An introduction to electronic mail at the University of Chicago.”

If you are interested in Usenet discussions, you should read carefully through the articles in the newsgroup news.announce.newusers, for information on getting along with other Usenet users. For more information on Usenet etiquette, see:



“‘Netiquette’: a summary (Usenet posting etiquette).”



Using net- worked databases, archives, and directories

The quantity of information which you can access through networks is staggering. Trying to find out what is out there, where it is, and how to get it, can be very difficult.

APC provides several metasources (aids to locating information sources) to help you with the "what"s, "where"s and "how"s of networked information. The most important is our campus information service, "UCInfo."

UCInfo

APC has established an information service called UCInfo, which makes it possible for you to get many kinds of information and software, including:

- information about the University of Chicago and its environs — including calendars of campus events, course schedules, and descriptions of student services;
- introductions to networked information, and general guides to using the Internet and BITnet;

- metasources — guides, directories and catalogues to information available over the campus network and the Internet;
- client software, and instructions, for using some popular networked information access services (such as Gopher, WAIS, FTP, and Telnet) from a variety of computer platforms.

Through UCInfo, you can also connect to other information servers around the world. Because most of UCInfo is currently published through an information service called Gopher, which presents a virtual hierarchy of “files” (which may actually reside on dozens of computers at different institutions around the Internet), you can easily reach documents, online directories, and databases at any Gopher site, and the number of these is growing by leaps and bounds. For more on Gopher, see “Access services: browsing networked information-space — Gopher and WWW” below.

Information is constantly being added; we would appreciate suggestions for more sources. If you have questions or comments about the server, send them to gopher-team@midway.uchicago.edu.

other sources of networked information

online library catalogues

Library catalogues are online at a number of universities, including the U of C. While it will be many years before the libraries themselves are online, computerized catalogues allow quick, up-to-date searches for interesting materials — and even information on what’s checked out at a given time.

The University of Chicago Library has computerized a large portion of its catalogue and circulation records. This Online Library Catalog, like other multi-user systems on campus, can be reached either by dialing in or from the campus network. (To connect from the campus network, telnet to olorin.uchicago.edu, and type *lib48* at the ENTER CLASS prompt.) The Library provides a printed guide to reaching and using the Online Catalog; you can pick up copies at Regenstein and Harper Libraries.

Brief instructions and automatic connections to this and many other library catalogues are available in UCInfo. (However, the client software for some workstations does not yet make the connection automatically.) Note that you can connect to other computers on the Internet using the Telnet access service; some of these computers allow anyone to connect with a special login name to access a restricted set of services, such as library catalogues (or campus information systems). Since library catalogue systems vary greatly from one institution to another, using any particular system requires learning its idiosyncrasies.

file servers

A file server is a computer which shares information with other machines on a network.

The campus network has a number of file servers, including those at APC-managed computing sites and in various residence halls and departments. The AppleShare file server “Room Service” contains a range of documentation, including this Guide package and most of the documents mentioned in it. Room Service’s volume “Jeeves” also contains a variety of miscellaneous useful information, like the Registrar’s *Time Schedules*. Other volumes on Room Service include KeyServed applications (see “licensed software for checkout” earlier in this Guide). For more information on Room Service, see “where to find freely-copyable software.”

Many computers connected to the Internet — over thirty thousand, in fact — allow you to connect to them as file servers, using the FTP access service (see “file transfer: ftp” below) and the login name “anonymous”; once connected, you can transfer any of a variety of files. Data available ranges from computer software to the works of Dante to current weather reports and maps. APC maintains its own anonymous FTP archive on the Sun midway.uchicago.edu, which includes software like *OzTeX* for the Macintosh; also see “where to find freely-copyable software” earlier in this Guide.

the online campus directory (and “white pages” services)

The University’s Online Directory contains information about faculty, staff, and students at the University of Chicago. You can look up a friend or colleague’s name and affiliation; anyone in the Directory can choose to include other information about themselves, like office location, office hours, and phone number, or a permanent alias for addressing electronic mail. (See “e-mail addresses and the Online Directory” in the section “Communicating via e-mail” in this Guide.)

Many other universities provide similar services. UCInfo provides access to the campus directories of some universities, and suggestions for locating people at other schools and institutions.

*access services:
browsing networked
information space —
Gopher and WWW*

Two approaches to browsing or navigating networked information space are currently popular.

The first approach presents information as a hierarchy — the familiar folders and sub-folders of the Macintosh environment, or the directories and sub-directories of DOS and Unix systems. Someone browsing the information space can explore each branch of the information tree, which reflects the organization of the information provided by the publisher.

The second approach presents information as a “hypertext” — a document with selected words or graphics acting as links to other documents, with their links to yet other documents, and so on. The active words or graphics are identified by highlighting or other visual cues, so that someone browsing the information space can choose to jump to a new document or continue exploring the current one.

Each approach has its strengths and weaknesses, but both allow you to move around in an information space to reach a known information source or, sometimes, to discover new information sources while browsing.

retrieving information in hierarchies: the Internet Gopher

The “Internet Gopher” information service is the most popular hierarchical navigation tool. Gopher is a distributed document delivery service (many institutions on the Internet publish and maintain information on their own Gopher servers) which presents a seamless view of a virtual hierarchy of “files” — a familiar and easily used format for displaying information on computers. These “files,” which appear to you to be in a single Gopher directory, may actually reside on more than one computer, at more than one institution.

Gopher “files” include sub-directories of Gopher sources, documents (which may contain text, sounds and pictures), online campus directories of people, and database search requests which identify and return a list of relevant documents. There are already hundreds of Gopher sites (with thousands of files and transparent connections to other university systems and databases), so you can “go for” information located all over the

Internet. Information available ranges from gene-sequencing databases and sequence-analysis tools, to a table of the elements, to Aesop's Fables and the Federalist Papers.

Gopher was developed at the University of Minnesota, and named after the school's mascot.

APC's campus information service, "UCInfo," currently uses a Gopher server (gopher.uchicago.edu) as its main point of entry; it connects to hundreds of other information servers worldwide. If you'd like to get started with UCInfo right away, you can type the command "gopher" on quads, ellis, or kimbark. The menus are very easy to use, but you can check the man page if you need more information.

Gopher client software for the Macintosh and for MS-DOS is available from both Room Service and the software archive on APC's Suns (see "How and where to find software" in this Guide). You can also get the software from UCInfo itself, then download it to your Mac or MS-DOS computer. Instructions are included with each package.

retrieving information as hypertext: WWW

WWW (World Wide Web) is the most popular "hypertext" navigation tool. Convenient WWW client software is expected to become available Autumn or Winter Quarter; WWW will be integrated into UCInfo at that time.

The WWW project uses hypertext as a method of retrieving information from remote information servers, presenting an easy-to-use, but powerful, "worldwide web." The web consists of documents, in many formats, which have been linked together by their various authors. Those documents which are hypertext contain links to other documents, or places within documents. Special documents which may be searched (rather than read) are called "indexes"; the result of such a search is another virtual document containing links to the documents found. All documents, whether real, virtual or indexes, look similar in WWW.

To follow a link, you click with a mouse (or type in a number if you have no mouse). To search an index, you provide keywords or other search criteria. These are the only operations necessary to access any data in the web.

*access services:
locating relevant
information sources —
Archie, Veronica
and WAIS*

So many information sources are accessible via the Internet that it is impossible to search through them for the information you need without assistance. Some assistance is given by managers of Gopher or WWW information servers, who try to organize the information they publish or re-publish in a useful manner. But powerful tools are still required — indices, catalogues, directories, annotated lists and other "metasources" — to help you locate relevant information.

At present there is no unified catalogue of networked information sources (although efforts are being made in that direction), but there are some metasources for significant subsets of information sources, usually organized around the type of information server (such as Gopher, WWW, or FTP) used to publish the information:

- Archie is based on an index of the file names, and sometimes file descriptions, of files available via anonymous FTP worldwide.
- Veronica is based on an index of the menu titles of most Gopher servers.

- WAIS is a full-text database system (which indexes all words in all documents, rather than titles or keywords); there is a WAIS "Directory of Servers," based on an index of the descriptions of most databases which use the WAIS database query system.

finding files for FTP: Archie

The Archie ("archive" without the 'v') system is a tool for gathering, indexing and serving information from around the Internet. The current version provides a collection of filenames found at anonymous-FTP sites, as well as a smaller collection of text descriptions for software, data and other information found in anonymous-FTP archives. Additional databases are under development.

To use Archie, you run a client program which connects to an Archie server, and issue search commands to find information in an Archie database. In the case of an anonymous-FTP filename, this information can then be used to fetch the file you want directly from the archive site, using an "ftp" command. Archie can be seen as a secondary source of information which, because of the high cost of locating and serving files for FTP, would not otherwise be available.

There are gateways to the Archie system from Gopher, WAIS and WWW.

finding files for Gopher: Veronica

Veronica ("Very Easy Rodent-Oriented Netwide Index to Computerized Archives") is a service which locates items in the worldwide Gopher network by searching for key words in the titles of Gopher items. Veronica maintains an index of items on all menus of all Gopher servers which are accessible to the Internet at large; the Veronica index is updated about twice per month.

If you have access to a Gopher client, you can contact a Veronica server to perform a search. The result of a Veronica search is a set of Gopher-type data items, which is returned to your Gopher client as a Gopher menu. Items on this menu may be drawn from many Gopher servers. Each item on this menu contains your desired keyword or keywords in the item title; you can access any of the items by selecting from the menu.

Because Veronica is accessed through Gopher clients, it provides immediate access to all types of data supported by the Gopher protocol and the client implementation.

locating information in databases: Wide Area Information Servers

The WAIS (Wide Area Information Servers) service is a project by a growing set of institutions (already hundreds of them, mostly universities) to supply many collections of electronic information over the Internet. The information can be anything — text, pictures, voice, or formatted documents — and can be stored on different types of machines, anywhere on the Internet. Sources include databases on such things as patents, biomedical abstracts, weather, a World Factbook, and classical and modern poetry.

The idea is to allow you to locate and collect information from a large number of "information servers" (computers that know how to answer questions over a network), using a single interface. You type natural-language questions to try to find materials containing certain words and phrases; the WAIS server ranks the documents

it locates in order of likely usefulness. You can refine searches, and ask a server to alert you when new information becomes available.

A WAIS client for the Macintosh called *WAISStation* is available from Room Service (see “where to find freely-copyable software”); documentation is included with the software. Other WAIS clients will be available Autumn or Winter Quarter, and will be integrated into UCInfo at that time.

While Gopher, WWW and WAIS have built-in mechanisms for retrieving information sources once they are located (whether by browsing or by use of metasources), a vast number of information sources are not yet accessible through those services. To retrieve such sources, more basic tools are used; these include FTP, Telnet, and Ph.

*access services: retrieving
information sources —
FTP, Telnet, Ph*

file transfer: FTP
.....

The File Transfer Protocol (FTP) is a service which allows you to transfer files from another computer to your own. You can use FTP on many different machines on campus, from Macintoshes (*Fetch*, *SU-Mac/IP*, *NCSA Telnet*) and MS-DOS computers (*PC/TCP*) to shared systems running Unix, such as quads, ellis or kimbarb (the *ftp* command).

For Macintosh FTP use, APC recommends the file-transfer utility *Fetch*, which can both transfer and convert files. For more information, see:



“Transferring files to your Macintosh using Fetch.”

If you use other Macintosh or MS-DOS FTP tools, see the documentation which comes with your software. If you use the Unix *ftp* command, see the man page.

A filename-searching tool named Archie is a metasource for FTP. See “finding files for FTP: Archie,” above.

remote access: Telnet
.....

The Telnet access service allows you to connect to another computer on the Internet. Some computers allow anyone to log in with a special username to access a restricted set of services (such as accessing library catalogues or campus information systems). For nearly all other systems, you’ll need to have an account on your target machine before you can log in.

Telnet clients are available for both the Macintosh (*SU-Mac/IP* and *NCSA Telnet*) and MS-DOS computers (*PC/TCP*). You can find the Macintosh packages on Room Service; see “where to find freely-copyable software,” earlier in this Guide. The MS-DOS package, *PC/TCP*, is sold by the Campus Computer Store; see “Buying (or adding to) a computer system,” later in this Guide.

Some clients, such as the *telnet* command on Unix systems like quads, ellis and kimbarb, allow you to specify the port number on which you want to connect to your target machine; this is useful because some services (for instance, a geographic server at the University of Michigan) are offered on a port not normally used by Telnet. See the man page for more on the Unix *telnet* command.

phone-book use: Ph

The access service called Ph, available as a standalone program on a Macintosh or Unix machine, allows you to look up friends or colleagues in the Online Directory; the program formats and displays the results for you. The mail software *NUPop*, for MS-DOS machines, also includes a "Ph" command. You can even use Ph to get information about people from some other universities. (People both inside and outside the U of C can also use the standard inquiry *finger someone@uchicago.edu* to access our Online Directory.)

You can get the Macintosh version of *Ph* from Room Service or UCInfo; for details, see:



"Using the University Online Directory with Macintosh *Ph*."

Ph is currently available on quads, ellis, and kimbark. (It may also be installed on other campus systems by their system administrators.)

For more on retrieving Directory information, modifying your entry, and learning other Unix *ph* commands, see:



"Using the University Online Directory with Unix *ph*."

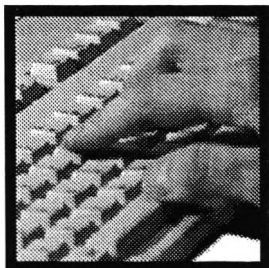
where to obtain resources

APC provides client software for each information access service in one or more of the following ways:

- via our campus information service UCInfo, in this menu path: "University of Chicago information and services — Computing resources — Software — Client software for accessing networked information." See "retrieving information: the Internet Gopher," above.
- on our AppleShare server "Room Service," in the folders "Macintosh" and "MSDOS" on Jeeves. See "How and where to find software," earlier in this Guide.
- in the software archive on our Suns, for transfer with FTP or for downloading with Kermit (or similar communications software), in various subdirectories of `/usr/local/share/ftp/pub`. See "How and where to find software" in this Guide.

For more information on using these services, browse the various Internet documents available through UCInfo. The most accessible introductory materials are a tutorial called "The Internet Tour," and Brendan Kehoe's "Zen and the Art of the Internet."

For further information or assistance with any aspect of networked information, please contact the Academic and Public Computing Hotline at 702-3111 (advisor@midway).



Your responsibilities using U of C computing resources

Your use of APC and other University-provided services and facilities must be consistent with the University's missions of education and research. As a responsible member of the University, you are expected to act in accord with the following general guidelines for use of University-provided computing facilities:

- Respect others' rights to freedom from harassment or intimidation. Do not send abusive or patently unwanted material to others. Do not cause others' work to be disrupted by your actions.
- Respect copyright and other intellectual-property rights. Copying files or passwords belonging to others or to the University may constitute plagiarism or theft; copying commercial software without paying for it (or using it under a license) is illegal. Modifying files without authorization (including altering data, or even damaging files) is unethical, and in many cases illegal.
- Identify yourself clearly and accurately in electronic communications. Concealing or misrepresenting your name or affiliation appears to dissociate you from responsibility for your communications. Other than rare instances in which anonymous contributions are explicitly countenanced, deliberately concealing your identity is a serious abuse. Using the identifiers of other individuals constitutes fraud.

- Abide by security restrictions on all systems and information to which you have access. Do not distribute passwords or otherwise attempt to evade, disable or “crack” password or other security provisions; this threatens the work of many others and is grounds for immediate suspension of your privileges.
- Use resources efficiently. Accept limitations or restrictions on computing resources (such as storage space, time limits, or amount of resources consumed), when asked to do so by facilities managers; such restrictions are designed to ensure everyone fair access.
- Recognize realistic limitations to the privacy afforded by electronic services. You have a right to expect what you create, store, and send to be seen only by those to whom you give permission. Remember, though, that the security of electronic files on shared systems and networks is no better than that of an unsealed envelope — most people respect it, but someone determined could breach it. Also note that, as part of their responsibilities, system managers may need to diagnose or correct problems by looking at files.
- Accept responsibility for your own work, by learning how to use software correctly. Keep archives and backup copies of important work. Learn and properly use the features for securing or sharing access to your files on any computers that you use; change passwords frequently and do not share them.

When necessary to continue reasonable services to the rest of the community, or in cases of flagrant irresponsible use, APC will restrict or remove privileges. We document cases of abuse to University authorities, and are sometimes required to provide other information to University authorities and/or law-enforcement officials. Failure to cooperate with investigations of technical problems, or of possible unauthorized or irresponsible use, may be grounds for suspension of privileges.

The University extends these principles and guidelines to systems outside the U of C accessed via its facilities (such as electronic mail or remote logins using the U of C's Internet connections). Network or computing providers outside the University may impose their own conditions of appropriate use, for which you are also responsible.

If you have questions or concerns about these guidelines, feel that you have been harassed, or learn that others are using APC resources irresponsibly, please contact the Director of Academic & Public Computing, at 702-7167 or apc-dir@uchicago.edu.



Buying (or adding to) a computer system

The Campus Computer Store serves students, staff and faculty at the U of C. Thanks to educational discounts from manufacturers, the Store's prices are often far below retail.

The Store sells Macintosh systems, IBM PS/2 and Dell personal computers; Hewlett-Packard printers; and Sun SPARC, IBM RS/6000, and Silicon Graphics Indigo workstations. Full warranty service on Apple and IBM products is available; the Store's service center will also repair out-of-warranty computers and install upgrades.

The Store carries a variety of commercial software, and can special-order anything it doesn't carry. Products you buy from the Store are covered by technical support — via telephone, electronic mail, and a bulletin-board system, among other methods. For more information, see the section "Help! Who to talk to."

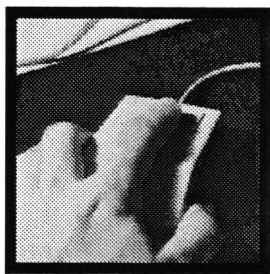
The Campus Computer Store is in the Bookstore building at 970 E. 58th Street, room 340; its phone number is 702-6086. Hours are 8:30–4:30 weekdays.

The University Bookstore, several independent computer dealers in Hyde Park, and hundreds of mail-order firms also carry software, machines, and accessories. For mail-order offerings and prices, check the ads in the back of computer newspapers and magazines.

Before you buy any hardware or software, please read this document:



"Academic & Public Computing's overview of recommended computing platforms."



Help! How to learn about computing

Sources you can use to learn about computing at the University of Chicago include APC mini-courses, APC-produced and other documentation, and commercially produced books and periodicals.

APC mini-courses

Each quarter during the academic year, Academic & Public Computing offers a variety of free introductory-level computing classes and seminars. These are described in schedule flyers, which we print and distribute at the beginning of each quarter (you can get them at Usite — APC's Central Users Site, in Wieboldt 310, adjacent to Harper Library); in advertisements in the *Maroon*; and in the biweekly *Chronicle* calendar. Class schedules are also available via the information service "UCInfo" (see "Using networked databases, archives, and directories").

If you need to learn about a topic we don't currently teach, we can also refer you to other course providers, both on- and off-campus. Please call the APC Hotline, 702-3111, for more information.



APC mini-course schedules.

Documentation

For personal systems, the first documentation you should consult is that which came with your equipment or software. But for supplementary material, and information on public systems, where can you turn?


You can obtain several different types of documentation through Academic & Public Computing, in both printed and online versions.

printed materials

Printed documentation — produced by APC and other organizations — is available at our main computing lab, “Usite” (APC’s Central Users Site, in Wieboldt 310, adjacent to Harper Library). Most documentation provided by product vendors is there, along with documents written here at the U of C. (Note that MVS documentation is not available at Usite.) Ask the Computing Assistant on duty for help finding what you need.

Documents mentioned in this Guide, as well as the Guide itself, are available at Usite unless otherwise noted. You can also find them at our other public labs, and at the Campus Computer Store.

One of the very first documents you should read explains how to protect your work from machine failure, tampering, and other disasters. To learn about virus protection, passwords, backups, disk care, and other issues of data security, please read:

 “Keeping your work safe (on any system).”

If you live in a residence hall with a reception desk, you’ll also be able to browse through a binder of APC documentation on various Macintosh and PC-compatible software.

online materials

Most recent APC documentation, including this Guide package, is also available in electronic form via our information service “UCInfo” (plain texts) and on our file server “Room Service” (formatted documents). See “Using networked databases, archives, and directories” in this Guide.

APC’s public academic computers — “quads,” “ellis,” and “kimbark” — have, like other Unix machines, an online manual: the “man pages.” Typing *man man* at a Unix prompt will give you information on the *man* command and its options, including how to request printed copies of any man page. (The “see also” section in each man page cross-references other Unix commands you may find useful.) If you’d rather read the printed, bound manuals, a complete set is kept at Usite.

suggested reading

books

Especially if you’re just getting started, you may want to pick up some introductory texts on computing.

Most computer stores and larger bookstores carry books on operating systems, application software, programming languages, hardware, and almost anything else you could want to know. In Hyde Park, your best bet is probably the University of Chicago Bookstore, or Kroch’s and Brentano’s on 53rd Street; you might want to check Eckhart and Regenstein Libraries as well. Downtown chain bookstores (Kroch’s and Brentano’s, and B. Dalton’s Software Etc.) are also good sources for books.

There are more opinions on which books to read than there are experts to ask. To get you started, a few of us in APC have come up with titles for a broad range of tastes.

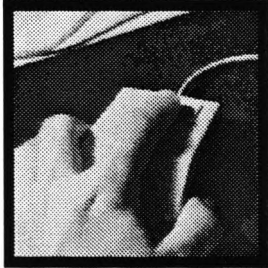
If you're practically minded and ready to tackle a specific operating system, you could try a book like Libes and Ressler's *Life with Unix*, or Williams and Nelson's *The Little Mac Book* (2nd edition); both are accessible and helpful. For help with a specific type of software, you could look for a book like Mynhier and Cobb's *The Word Companion*, or Robin Williams's *The Mac is not a typewriter* ("a style manual for creating professional-level type on your Macintosh") or her similar book for the IBM PC and compatibles. To explore problems unique to computing, try titles like Godnig and Hacunda's *Computers and Visual Stress*, or *Computers under Attack: Intruders, Worms and Viruses*, edited by Peter J. Denning.

If you prefer a scholarly approach, you might consider a book like Robert L. Oakman's *Computer Methods for Literary Research* (dated but a good overview), or the more recent *Literary Computing and Literary Criticism*, edited by Rosanne C. Potter. Finally, to learn What It All Means, find a book like Shoshana Zuboff's *In the Age of the Smart Machine: the future of work and power*.

periodicals

Once you've learned a bit about your system, periodicals dedicated to that system are another great source of information. They often have articles on new products and current issues, reviews, and letters from readers. Advertisements showcase new products and provide opportunities to mail-order items — often at substantial savings. You can find some of these magazines and newspapers at many chain bookstores, local computer dealers, and Eckhart, Regenstein, and Harper Libraries.

Periodicals to look for include: *MacUser*, *MacWorld*, and *MacChicago* (Macintosh computers); *Byte* and *PC Magazine* (MS-DOS computers); and *SunWorld* and *SunExpert* (Sun workstations). If you want to keep up with weekly developments, *InfoWorld* (general computing), *Open Systems Today* (Unix), and *MacWeek* (Mac) are good sources.



Help!

Who to talk to

If you have questions about or problems with the equipment or software you're using, the first place to look is the documentation it came with. In addition to answering many basic questions, manuals often can point you to support services provided by the maker of the product.

When you can't decipher an answer from the manuals, though, your next step is to consult people who provide expert advice and problem-solving.

places to turn

APC Hotline

Have a question? Every weekday, from 9 am till 5 pm, the staff of the Academic & Public Computing (APC) Hotline will answer questions about software or procedures, or even recommend alternative ways to get your project done. Our phone number is (312) 702-3111; we can also be reached by electronic mail as advisor@midway.uchicago.edu.

If you require extensive help, you may have to make an appointment with a staff member. (You might also want to take a class on the topic; see the "Help! How to learn about computing" section of this Guide.)

Campus Computer Store

The Campus Computer Store provides information and support via the following methods:

- **Fax retrieval line:** For information on products and prices, call the CCS fax retrieval line at 702-9977; you'll receive a recording with an index of documents, and you can leave your fax number to receive copies of those you request. (The index is document #0.)
- **Bulletin board:** The Store maintains a bulletin-board system, with current price lists, some product sheets, and technical support, at 702-2146 or 702-3395 (2400–14400 bps); settings are 8 bits, 1 stop bit, no parity.

- **Gopher server:** You can get materials like price lists and product sheets through the Gopher information service, from the server "ccsgopher.uchicago.edu".
- **Anonymous ftp:** The Store's anonymous ftp server, which also provides materials like price lists and product sheets, is ccstftp.uchicago.edu. (Log in as "anonymous," and use your full email address as a password.)
- **Support phone line:** If you've bought equipment or software from the Campus Computer Store, you can get technical support from the Store's hotline at 702-7500, from 8:30 till 4:30, weekdays (be sure to have your order number when you call).
- **Electronic mail:** You can get online support for Store products by mailing questions to the address ccstech@midway.uchicago.edu.

manufacturer support

If there's a hotline where you can get information from a manufacturer, and answers to technical questions, you can usually find its telephone number in your manual. (Note that software hotlines often ask for your registration number.) This is an especially good source of help for hardware or software which, because it is old or uncommon, is not supported by campus computing services.

computing sites staff

Academic & Public Computing's Central Users Site ("Usite") is located in Wieboldt 310, adjacent to Harper Library. (For more about Usite, see the "Where to find a computer to use" section of this Guide.) Computing Assistants at Usite can help with a wide variety of computing questions; they are especially knowledgeable about converting data between various MS-DOS and Macintosh formats, and recovering data from floppy disks (though recoveries usually take some time).

The Computing Assistant on duty can usually provide limited advice when the Hotline is closed. Usite's number is 702-7894, and it's open till 3 am daily. At some times Usite is extremely busy, so you may have to be patient. Otherwise, feel free to ask — no question is too basic.

If you often work in a departmental computing site, like the Business School's Walker site, the Computer Science Lab, or Walsh Humanities Computing Facility, you should check with the tutor or assistant on duty at that site; these staff members are often well-acquainted with specific equipment or software used in your field.

user groups

A number of product user groups in the Chicago area offer a variety of services. One group, for instance, features monthly meetings, a 24-hour bulletin board, a public-domain software library, special interest groups, and discounts on disks and ribbons at local retailers. Two active groups on campus are the NeXT Users' Group (write to nug@stevie.bsd.uchicago.edu) and Amiga Users' Group (ucaug@oskar.uchicago.edu, or the Usenet newsgroup uchi.org.amiga-users); a DOS user group has just been formed (write to pcug@uchicago.edu). We may be able to put you in touch with a local group which discusses your equipment or software; for pointers,

look on UCInfo (see “Using networked databases, archives, and directories,” earlier in this Guide), or call the APC Hotline.

when you need help

Let's say you've taken the sensible precautions of backing up your disks often, saving often, and scanning unknown disks with a virus scanning program — but something happens. Say a virus does invade your system, or your hard drive fails to boot up, or your disks aren't recognized by the system: what should you do?

Don't panic. Call the APC Hotline. When the Hotline is closed, you can try calling the Computing Assistant at Usite, since Usite is open nineteen hours a day (fifteen on weekends); if not personally able to help you, the Computing Assistant should be able to refer you to someone who can.

Because anyone providing support over the phone will want to know these things about your problem, you may want to make a list before you call:

- The type of computer you are working on, such as “a Macintosh IICx,” “an IBM PS/2 Model 60,” “the MVS system,” “quads,” “my Sun 2/160,” etc.
- What level of system software you are running, such as MS-DOS 3.3, or Mac System 6.0.7, or Sun OS 4.1.1.
- The full name and version of the software package you have a question about, such as *mail* on our Suns, or *Microsoft Word 4.0d* for the Macintosh. (Some programs exist for more than one type of computer, so saying which one you're using is important.)
- A concise, well-thought-out description of your problem, along with any error messages if applicable.
- What you've already done to try to solve the problem.

However, you should almost always consult your manuals first, to see if there is anything you can do yourself to work things out. Even if it turns out that you are unable to solve the problem yourself, any work that you do in the attempt will be useful in describing the nature of the problem to someone else.

tear-off checklist

You can pick up the following documents at Usite and the Campus Computer Store.

Alternatively, you can use this checklist to obtain documents by Faculty Exchange. Just mark the ones you want, fill in your FacEx address, tear off this sheet, and send it to the Academic & Public Computing secretary at 1155 East 60th Street. Or you can fax it to us at 702-3219.

General

- ☐ "Academic & Public Computing's overview of recommended computer platforms"
- ☐ "Using software: a guide to the ethical and legal use of software for members of the academic community"
- ☐ "Connecting to the residence halls data network"
- ☐ APC mini-course schedule for the current quarter
- ☐ "Keeping your work safe (on any system)"

E-mail and news (any platform)

- ☐ "An introduction to electronic mail at the University of Chicago"
- ☐ "An introduction to Usenet news at the University of Chicago"
- ☐ "'Netiquette': a summary (Usenet posting etiquette)"

Quads/ellis/kimbark

- ☐ "Logging in to quads, ellis, or kimbark"
- ☐ "Getting started with Unix on quads, ellis, or kimbark: some basic commands"
- ☐ *Basic Unix on quads, ellis, and kimbark* (manual)
- ☐ "Using *mail* on campus Unix systems"
- ☐ "Using *mm* on quads, ellis, or kimbark"
- ☐ "Using the University Online Directory with Unix *ph*"

Macintosh

- ☐ "Obtaining and using Macintosh software from the KeyServer"
- ☐ "Electronic mail on the Macintosh using *Eudora*: a brief introduction"
- ☐ "Using the University Online Directory with Macintosh *Ph*"
- ☐ "Transferring files to your Macintosh using *Fetch*"

MS-DOS systems

- ☐ "Electronic mail using *NUPop*: a brief introduction"

Name

FacEx

.....

Academic & Public Computing

secretary

1155 East 60th Street

Chicago, Illinois 60637

FACULTY EXCHANGE

T a b l e o f C o n t e n t s

APC Resource Guide

Supplemental Text

1	An introduction to electronic mail (at the University of Chicago)	S1
2	A step-by-step guide to the world of electronic mail	S8
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An introduction to electronic mail at the University of Chicago

What is e-mail? Why use it?

You may use computers in your daily work to write papers or create graphics or analyze data. If so, why not use a computer's speed and flexibility to communicate? Electronic mail (often abbreviated "e-mail") is a popular and efficient way to send messages, files, programs, and data. Using e-mail, you can exchange letters with a friend using the same computer, a colleague across campus, or correspondents halfway around the world.

Electronic mail has several advantages over low-tech methods. Messages and files usually arrive at their destination within a day, depending on the specific networks they traverse (mail over the worldwide Internet can arrive in minutes, or even seconds). Large files are often as easy to send as small ones, and copies can be distributed to many different people in a single step. And there are no phone bills or postage stamps to worry about; your campus mailbox costs you nothing.

From an academic perspective, e-mail's most important advantage is that it makes collaboration with distant colleagues much easier. Using electronic mail, you can send manuscripts, data, programs, and personal notes quickly and conveniently. Since in most cases you can connect to your mailbox using a modem or the campus network, you can even examine your mail from home or while you are traveling.

Getting started

Academic & Public Computing (APC) provides free access to a personal mailbox on our machine "midway" for all faculty, students and staff on campus. In addition, many campus departments now operate their own electronic mail services, which may tie in to the rest of the campus network; you may want to investigate your department's offerings.

You can use your APC-provided mailbox as soon as you claim your account. If you are a new faculty member or student, you may receive a "claims" letter; follow the directions in the letter (or contact us for assistance). If

you are staff (and have your department's approval), or you never got a claims letter, or you forgot your mailbox name or password, you'll need to visit APC (1155 East 60th Street; go to the third floor and follow the signs), bringing your University photo ID.

The programs APC recommends for using your electronic mailbox are the Macintosh software *Eudora* and the MS-DOS software *NUPop*. These software packages are currently distributed free of charge; they are available at all APC's public computing labs, as well as on our AppleShare file server "Room Service." (For information on Room Service, see the *APC Resource Guide*.)

For help getting started with *Eudora* or *NUPop*, see our introductory documents on these programs:

- "Electronic mail on the Macintosh using Eudora: a brief introduction"; and
- "Electronic mail using NUPop: a brief introduction."

If you decide not to use a microcomputer to handle your electronic mail, you can access your mailbox by logging in to APC's public Unix systems "quads," ellis," and "kimbark." (For more information on these systems, see the *APC Resource Guide*.) On these machines, you can use one of the mail programs *mail* or *mm*, for help, see:

- "Using *mail* on campus Unix systems"; and
- "Using *mm* on quads, ellis, and kimbark."

All mail programs share a basic set of functions: **sending**, **reading**, **replying to**, and **saving** messages. Some have a broad set of options beyond this, allowing you to edit text easily, print out individual messages, and handle accumulations of mail. Most mail programs also allow you to change elements of their interface to your liking.

Before starting with electronic mail, you'll need to become familiar with one of these mail programs. If you use a program like *mm* or *mail* on a shared system, you'll also need a way to connect to the system — a terminal or something which acts as a terminal (like a Macintosh with a modem and communications software).

Finding people

You'll also need addresses for your correspondents before you send e-mail, because it's difficult to look up someone whose address you do not already know. If you know that someone is at State U. — which of State's many machines might they be on? which identification do they use on that machine? and do they even use electronic mail?

Using a bit of detective work, it is often possible to locate lists of machine names, though these change rapidly; sometimes, you can locate a username on a given machine, though these also change with some frequency. The third question, whether they use e-mail, is sometimes the most difficult to answer. To find the answers you need, you may need to ask your correspondent the old-fashioned way: via surface mail, telephone, or in person.

If you'd like to do the detective work to track down a *possible* address for a correspondent, you may want to read the articles in the directory `/usr/local/doc/email-addr` from quads, ellis, or kimbark. You can also see these files using the Gopher information service (see the *APC Resource Guide* for more information on Gopher at the U of C).

For more information on electronic-mail addressing — including how addresses are constructed, and what the various kinds of network addresses are (Internet, BITnet, UUCP, and others), see APC's document:

- "Electronic mail addressing to/from the University of Chicago."

[A typical e-mail message]

a Received: from kimbark.uchicago.edu by midway.uchicago.edu ...
b **Date:** Mon, 27 Jan 92 07:04:14 CST
c **From:** "UCO Hotline account" <advisor>
d **Message-Id:** <9201271304.AA01664@midway.uchicago.edu>
e **To:** elle, samg
f **Subject:** Re: Where is foobar.doc
g **Cc:** advisor

A Someone wrote to us:

B >In the man pages on foobar, it says to read the file foobar.doc in >/usr/local/doc.
I was unable to find this file. Could you please help? Any ideas?

C Joe

Header lines

- a: "Received" headers: which machine received your message from which other machine, and when.
(There may be several lines of these.)
- b: **Date:** when the message was sent. Usually in local time, though you'll sometimes see GMT (Greenwich Mean Time).
- c: **From:** who sent the message. Occasionally, a piece of software, such as a mailer-daemon.
- d: **Message-ID:** the unique identifier of this message.
- e: **To:** you and whoever else was a primary recipient. Sometimes a mailing-list name.
- f: **Subject:** describes the content of the message in some way. Nearly always present.
- g: **Cc:** carbon copy — who else received copies. (Blind carbon copies, or "Bcc"s, will not appear here.)

Header lines may occur in other orders than that given here. You may also see other header lines, such as "Status" or "Lines" (used by some mailers). When you're sending outgoing mail, you may also be able to add a "Bcc" (blind carbon copy) line, but this is stripped off before your mail reaches its destination(s).

Message parts

- A: The message text. (Separated from the headers by one or more blank lines.)
- B: In some messages, you'll see included text from some other message — often that being replied to. The character used to precede the included text is usually a ">".
- C: Signature. Can be automatically appended by most mail software.

Caveats

Historically, individual large-scale networks were developed for different purposes (research, business operations, and so on), so each network settled on different, and often incompatible, standard methods (“protocols”) of handling communications. Because many of these methods were not compatible, people interested in inter-network communication found it difficult to make one network’s messages understandable to another’s protocols for addressing and handling mail. As a result, getting mail through the electronic maze could be quite frustrating. This problem has eased somewhat in the recent past, though standards are still evolving.

Network problems occasionally result in vanishing messages. Most networks will inform you if mail sent within the network cannot be delivered, but mail across network-to-network gateways sometimes vanishes without a trace, because the address you used was not understood by the destination network (or the moon was full). Fortunately, this is no longer a common problem, but if you don’t receive an acknowledgment of important mail, you may want to call and confirm that it arrived.

Another subject to consider is the privacy and security of electronic mail: messages can be intercepted, forged or monitored — as they can in the “real world,” but perhaps more easily.

Are you sharing a password (or using an easy-to-guess password!) so that other people might access your mailbox and read your mail?

Does the mail you receive from someone else sound like something that person would actually say? (Passwords are sometimes stolen, and mail sometimes forged; it’s not a cause for paranoia, but you never really know whom you’re talking to.)

Finally, are you using e-mail to say something you’d be afraid to have others see? If your mail “bounces” somewhere you didn’t expect it to, you could be quite embarrassed.

Short etiquette pointer

You should keep in mind that while electronic mail retains much of the immediacy of live conversation, it lacks the social context — intonation, gesture, and facial expression. This makes it easy to misunderstand others’ intended meaning. You should think carefully about how each electronic communication will be interpreted, before you send it.

In the culture of network users, conventions have arisen to help writers make their intentions clear to readers; these include parenthetical comments, standard abbreviations, and “smiley faces” such as “:-)” and its variants (if it doesn’t look like a smiley face to you, tilt your head to the left).

Here are some guidelines to keep in mind when reading and composing electronic mail:

Brevity and clarity

- Use descriptive “Subject:” lines.
- Write as you would in a letter: use upper- and lowercase characters and complete sentences. Leave white space between paragraphs.
- If you’re replying to someone else’s message, summarize your understanding of the previous letter, or quote enough of the original to be understandable; many people receive hundreds of messages a day, which makes it very easy to lose track of a conversation! Don’t quote the entire message you’re responding to, though — use an editor.
- Keep your signature short.

Diplomacy

- Be aware of security issues: e-mail sent to you could have been forged.
- Be aware of irony, humor and satire. Don't jump to conclusions about others', but try to mark yours appropriately — the “:-)” is one tool for this.
- Remember that subtlety is difficult to communicate, and you may be misinterpreted.
- Double-check the headers on each message you send — make sure it's going to the people you want it to reach.
- Mail only messages you'd be willing to claim years from now.

Mail to groups: mailing lists and listservs

Mailing lists are just lists of people who all receive the same mail. Some are small groups of friends, others have hundreds of subscribers with some interest in common.

There are hundreds of such lists on scholarly topics alone, ranging from astrophysics to folklore to art criticism to brine shrimp. (Some lists take the form of electronic journals and newsletters — edited, often refereed, serials; these cover subjects such as Greek and Latin classics, astronomy, and primate research.)

To join a mailing list, you send a request to one address; to send mail to everyone on the list, you direct it to another address, from which it is automatically forwarded to each subscriber. Mailing lists are of two main types: automated lists, run with LISTSERV and similar software; and human-managed mailing lists, which use the same software as most other electronic mail. The main difference, for subscription purposes, is that BITnet LISTSERV subscriptions are usually automated, and Internet list subscriptions are usually handled by humans.

To subscribe to a LISTSERV, send a message containing only “SUBSCRIBE LISTNAME Yourfirstname Yourlastname” to the server@machine address (in Internet form if this is given, or appending “.bitnet” if only a BITnet node is specified). Don't add any other text to the message; it will only confuse the software reading your request.

To join other mailing lists, send an ordinary message (polite, in English, with relevant information) to the manager of the list in question. Most human-managed lists have a convention: the person in charge can be reached by adding “-request” to the list's name. So, for example, you join the TolKLang (languages of J.R.R. Tolkien) list by sending mail to tolklang-request@lfc.ed.ac.uk, asking the list maintainer to add you. (If you send your subscription request to a whole list — the address which does not contain “request” — you're likely to irritate the members, and the list manager may never see your request.)

You can find lists of lists in a variety of places, including the directory /usr/local/doc (visible from quads, ellis, or kimbarb) — especially the subdirectories “internet”, “bitnet”, and “news/newusers”).

You can also browse the lists using Gopher; see the *APC Resource Guide* for more information.

Other things you can do with e-mail

nicknames and group mailings

Most mail packages have provisions for allowing you to define nicknames, so that each time you send mail to a frequent correspondent or small group of correspondents, you don't have to type the full address. (For example, instead of listing “friend1@midway, friend2@cs, friend3@oddjob” on your To: line for a party invitation, you could simply type “friendlist”).

Whether or not you define nicknames for groups of correspondents, you may find the ability to send any message to several people, with only a few keystrokes, to be one of the best features of electronic mail.

forwarding mail

Mail forwarding from quads, ellis, or kimbarak — and most other Unix machines — is fairly straightforward. Simply place a file called “.forward” (the dot is part of the name!) in your home directory, containing the name of the mailbox to which you want your mail forwarded:

```
me@another-place.uchicago.edu
```

If you want to receive mail at both mailboxes, add the name of your current mailbox, preceded by a backslash:

```
\here,me@another-place.uchicago.edu
```

With APC's Online Campus Directory, you can also register a preferred mailbox, then ask correspondents to send mail to your alias or nickname rather than to your mailbox name; the Directory automatically forwards mail to your preferred mailbox.

Note that for mail to your alias to be forwarded to the e-mail system you use, you'll need to register your preferred mailbox in the Online Directory. You can do this directly, yourself, by using the program *ph* (on quads, ellis, or kimbarak; or the version called *Ph* on a Macintosh).

For more information on the Online Directory, see the *APC Resource Guide*.

For assistance on changing your entry in the Online Directory, see:

- “Using the University Online Directory with Macintosh *Ph*”; or
- “Using the University Online Directory with Unix *ph*.”

For more on e-mail addresses and forwarding, see:

- “Electronic mail addressing to/from the University of Chicago.”

Learning more

Once you've read this introductory memo, see APC's documents on other mail topics:

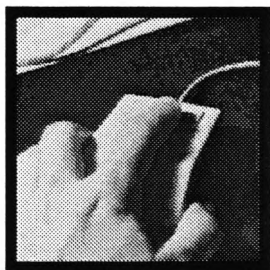
- “Electronic mail on the Macintosh using *Eudora*: a brief introduction”;
- “Electronic mail using *NUPop*: a brief introduction”;
- “Using *mail* on campus Unix systems”;
- “Using *mm* on quads, ellis, and kimbarak”;
- “Electronic mail addressing to/from the University of Chicago.”

You can also learn more online. If you use a Unix mail package such as *mm* or *mail*, try the internal help functions in your software — *mm* has excellent internal help. Also, look at the man pages for your preferred software; other man pages to consult include those for *from*, *finger*, and *host*. You can use the Gopher service to examine various materials on mailing lists, campus directories, and electronic-mail addressing in general. You may also want to browse the directory `/usr/local/doc` — particularly the “bitnet”, “internet”, and “email-addr” subdirectories.

Getting help

If you get stuck trying to address mail to someone, or you have questions about mail after reading the available documentation, drop a line to the Academic & Public Computing Hotline at the address advisor@midway.uchicago.edu.

We can also be reached by phone at 702-3111, weekdays. If your question involves “bounced” (returned) mail, though, it’s best to send us mail, attaching the headers and error message you received.



A step-by-step guide to the world of electronic mail

Electronic mail allows you to send messages and computer files all over the world for free. This guide explains the mysteries of getting started with electronic mail for Macintosh, MS-DOS and Unix computers. Start on the next page and follow the directions in each box. If you have trouble or need further explanations, you can get further assistance by calling the Academic and Public Computing Hotline at 702-3111, open from 9:00 am to 5:00 pm Monday through Friday.

Quick-reference diagrams on following pages.

“Do I need electronic mail?”

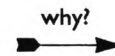
Macintosh options

MS-DOS options

Unix options

Quick-reference sections

Do I need electronic mail?



Connected to
colleagues,
friends,
relatives,
thousands
of people in
hundreds
of countries.

Yes!

[My computer is...]

[M A C] Make sure your Macintosh is a MacPlus or newer — System 6.0.5 or newer if it has 1 to 2 megabytes of memory (check “About Finder”); use System 7.0 or newer if it has 4 megabytes of memory. You’ll need a twenty-megabyte or larger hard disk, with at least one megabyte of free space.

[M S - D O S] Make sure your PC has ~460K free RAM after DOS and all network drivers are loaded. You should have 2 megabytes of disk space free (use the DOS command CHKDSK to check).

See page S11

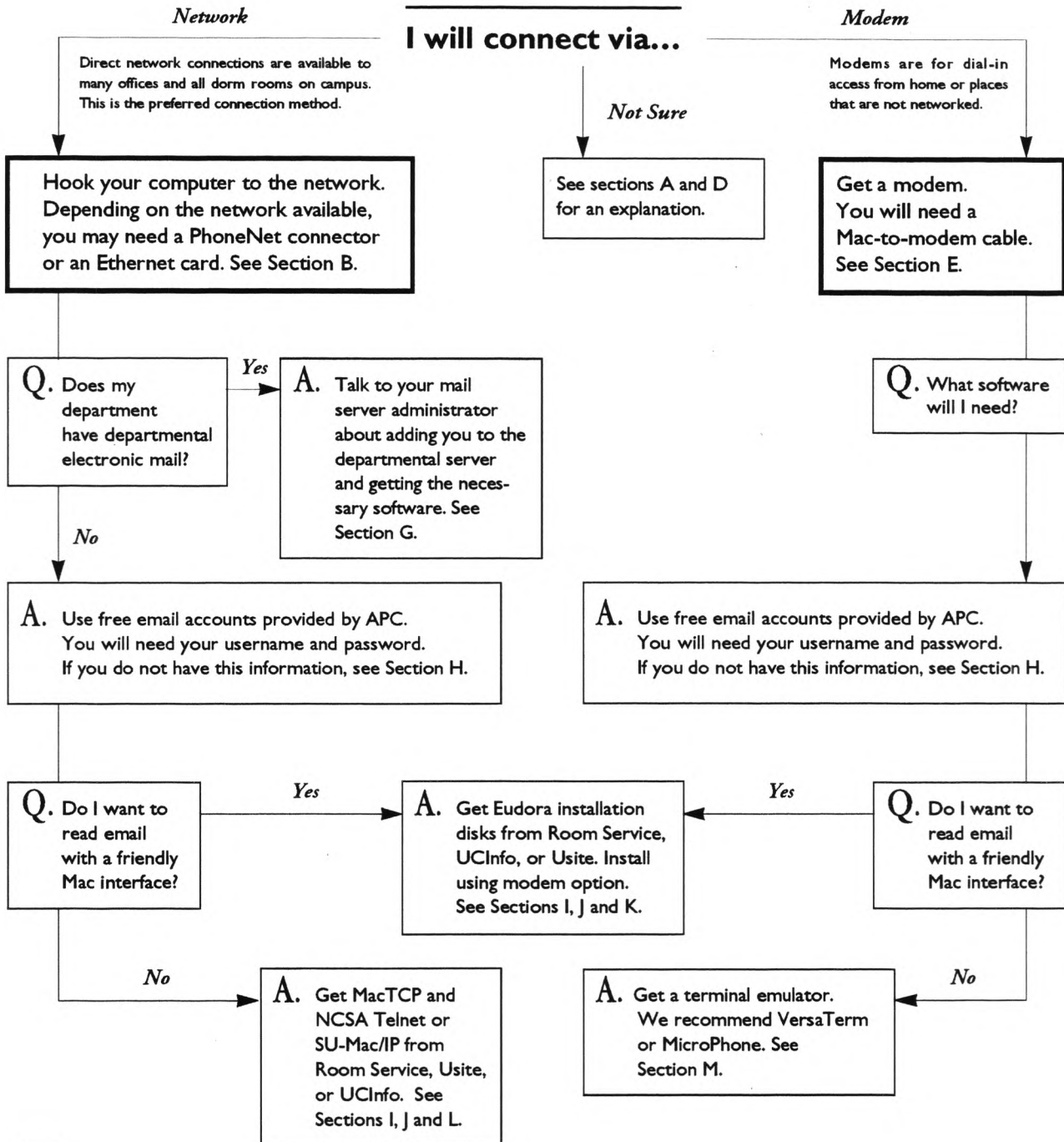
[U N I X] If you are using a departmental server for mail, you will need to talk to the system administrator. A Unix system (such as HP, NeXT, Sun) must be connected to the campus Ethernet network and must be properly configured to send mail. If you have one of these machines, talk to your department’s computer expert for more information.

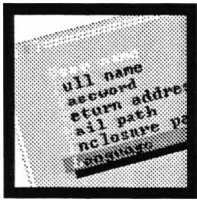
See page S12

See page S10

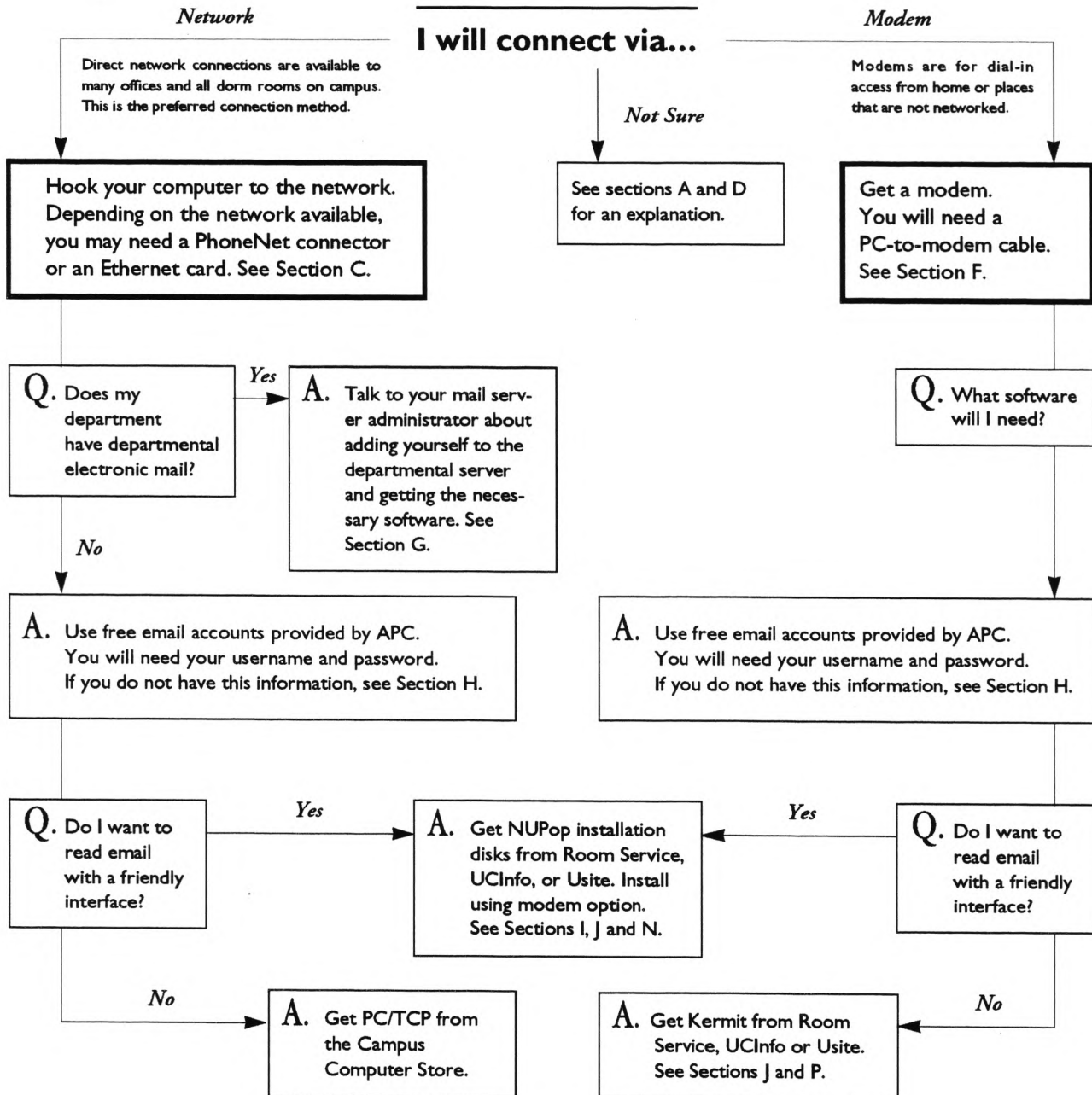


Macintosh options



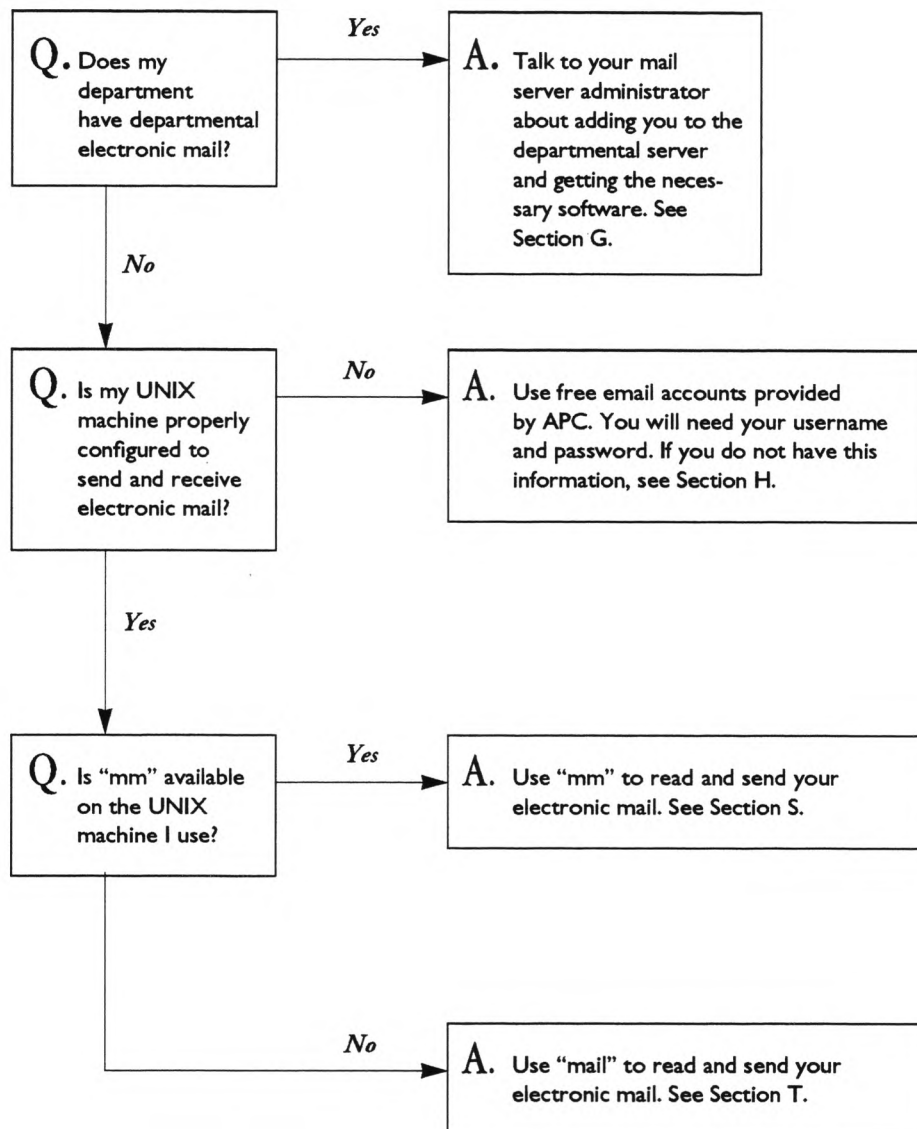


MS-DOS options





UNIX options



Section A: Direct network connections

APC strongly recommends that you obtain a direct connection to the campus network. This means that your computer is connected via a wire which goes through the wall directly to the campus network. A direct connection is important for two reasons. First, it is the way most electronic services will be provided in the future; data-intensive categories of information, like pictures, sounds and video, can only be transferred through a network connection. Second, a large number of programs currently only work through direct network connections, or work much more conveniently. For example, you can check for new mail without waiting for a modem to dial a telephone; *Eudora*, a mail program for the Macintosh, can be set up to automatically check for mail every few minutes so that you will be alerted as soon as important mail arrives.

Direct connections are available in all dorm rooms and in many campus offices; faculty should contact their department heads (or departmental computer staff, if available), staff their supervisors, and students their local dorm gurus. APC supports Ethernet and LocalTalk connections to the network; we can also provide help to users with isolated LocalTalk networks which are not connected to the campus network. See the specific network section for your computer type, below, for recommendations.

Section B: Macintosh networking

LocalTalk is the most popular way to network a Macintosh, because the LocalTalk network adapter is built in to the computer. It's also the cheapest: the total hardware cost, for LocalTalk connector kits and cables, is generally about \$25. LocalTalk is appropriate when your network use is low to moderate. The majority of LocalTalk connections on campus are PhoneNet connections, and have telephone-type plugs. You will need a PhoneNet connector (or equivalent). A PhoneNet connector is a small box, with a wire out of one end going to the printer port on your Macintosh; the other end of the box has two telephone ports. Plug one end of the supplied telephone wire into the connection marked "network" (check with a local expert to make sure), and the other end into the PhoneNet box.

Ethernet is the next most popular at the U of C, both because it is fast — about 40 times as fast as LocalTalk — and because Ethernet networks are extremely common. The speed has a cost, however; since you have to buy a separate network adapter, this can be from \$100 to \$300 more than a LocalTalk connection. (For residence-hall users, Ethernet cables and transceivers are supplied by NTCS — Networking, Telecommunications, and Computer Services. Some residence halls are connected to Ethernet by slow phone lines, though, so an Ethernet connection there is wasted money.) The decision largely depends on what type of networking is available. Again, it is important to get information from local — departmental or dorm — sources.

Section C: MS-DOS networking

MS-DOS computers do not have built-in networking hardware, so you'll need to purchase a network adapter board no matter what type of network you use. As a result, the overall cost of networking an MS-DOS machine is usually higher than with a Macintosh, but the difference in cost for connecting at different network speeds is less significant.

Two types of networks common in the business world, but not at the U of C, are Novell and Token Ring. Both of these types are expensive and difficult to install and maintain, and therefore usually require a network administrator who does little else but maintain the network. APC does not recommend them for U of C users.

Unless you have a specific reason for choosing a different network type, we recommend that you use either LocalTalk or Ethernet. (These are the only options available in the residence halls.) Ethernet has two advantages over LocalTalk: its transmission speed — except from certain residence halls — is faster; and it is more commonly used to connect MS-DOS computers, so you're apt to have an easier time connecting if you move to a different institution. On the other hand, the LocalTalk adapter boards for MS-DOS computers are generally cheaper than Ethernet boards, and they come with software to let you print and access file servers over the network, which you must purchase separately if you buy an Ethernet board. Find out what is available and being used from local sources, such as a departmental computer support person or dorm guru.

Section D: Modem connections

APC supports modem connections to specific machines on the campus network, although these connections are slower and do not have the full functionality of direct network connections. We only recommend that you use a modem when direct network connections are unavailable (for example, you are off-campus, or your office is not wired for the network).

Modems connect computers by using normal telephone lines. While you are using a modem, you cannot use the telephone; if someone calls while you are using a modem they will get a busy signal (unless you have call waiting and forgot to turn it off, in which case your connection may drop). With your modem, you can dial a pool of modems which will connect you to a gateway into the campus network; the number which you have your modem dial to connect is 753-0975.

The speed of a modem is measured in "bits per second" (bps), sometimes called the "baud rate." APC recommends at least a 2400 bps modem. While 9600 bps modems are four times as fast and are becoming less expensive, they are generally harder to configure. The Campus Computer Store sells a full range of modems; be sure to tell them what kind of computer you have and what you plan to do with your modem.

Section E: Macintosh modems

You will need a Macintosh-compatible modem. You will also need a Macintosh-to-modem cable. If you have a 9600 bps modem, you should have a special high-speed (sometimes referred to as "hardware handshaking") cable. Many modems today also can send and receive faxes; for this you will need fax software as well as a fax modem.

Section F: MS-DOS modems

Some modems for MS-DOS machines are internal — inside the computer. Others are external — outside the computer. Internal modems are cheaper, but also less flexible (for example, they're not usable by a Macintosh, as an external modem would be). APC recommends that you get an external modem. Be sure to get a modem that will work with your type of computer.

Section G: Departmental electronic mail

Many departments provide electronic mail as a service. If your department does so, talk to your local mail administrator to get more information. Electronic mail packages used around the University include

QuickMail, Microsoft Mail, InBox, and CCMail. Some of these mail packages include special features, such as voice annotation, file enclosures, printing, and immediate alerting when new messages come in.

All of these products are capable of communicating with people using other kinds of mailboxes, including the free APC mail accounts. Most departmental mail servers are configured so that you can send mail to any user on the Internet; talk to your mail administrator about whether this is true for you.

Departmental-type mail uses a central server where the mail is kept, typically a Macintosh or MS-DOS machine which does nothing but process electronic mail. In order to make use of a mail system like this, you will need an account on the server, and software to contact the server. Departmental electronic mail is usually only available if you are network-connected to the departmental server (although some programs allow modem dial-in).

Your mail administrator should be able to create your account, give you a password, and give you the software your computer will need. You should also ask your mail administrator to tell you your Internet address: this is important so that people outside your department will know how to send electronic mail to you.

Section H: Using free APC electronic mailboxes

Academic and Public Computing provides free electronic mailboxes for faculty, students, and staff. If you are a new faculty member or student, you may receive a "claims" letter; follow the directions in the letter. If you are a staff member (and have your department's approval), or you never got a claims letter, or you forgot your mailbox name or password, you'll need to visit Academic & Public Computing, with your University photo ID.

(Academic & Public Computing is located at 1155 E. 60th Street; go to the third floor and follow the signs you'll find there.)

Your username is a combination of letters (and sometimes numbers) which uniquely identify you on our systems, usually first initial(s) followed by last name, or some part of it (in the past, usernames were four characters, usually initials plus a number). Your password is the key that unlocks the system for your particular username. Since your mailbox is for your use only, **do not give out your password.**

When you receive electronic mail addressed to your username, it is held on our server machine ("midway") until you read it. When you read it, it is normally transferred to the machine you're reading from.

Your mail will wait for you until you check it. If you use a modem, you should probably check mail less frequently, since you must dial in each time; if you have a direct network connection, you can check much more often.

Section I: Getting files from Room Service with a Macintosh

You can obtain electronic mail software for your Mac, along with accompanying documentation, from APC's file server "Room Service." You can reach Room Service from any Macintosh on the campus network running AppleShare software. If you are connected to the network but don't have the AppleShare icon in your Chooser, you can install AppleShare from the System disks that came with your Macintosh, or get a new version on disk from Usite (the Central Users' Site in Wieboldt 310, adjacent to Harper Library).

To connect, select Chooser from the Apple menu. Click the AppleShare icon in the upper left hand corner. Click the "CompCtr" zone in the lower left corner. If you don't see a list of zones or "Room Service" does not show up

in the righthand list, you may be on a local network which is not directly connected to the campus network; in such a case, you will need to get your electronic-mail software from Usite rather than from Room Service.

Scroll through the list on the right (file server list) and select "Room Service." A dialogue box will appear; choose "Guest Access" and click "OK." When asked which volume you want, choose "Jeeves." (Please don't click the check box to the right of any volumes to connect automatically at startup; doing so creates extra network traffic and makes things slower for everyone. You should only connect to Room Service when you actually plan to copy something.)

The Macintosh client software is in a folder called "Macintosh". See sections below for information about particular electronic mail packages.

Section J: Getting files from Usite

You can obtain electronic-mail software at Usite (the Central Users' Site in Wieboldt 310, adjacent to Harper Library). Be sure to bring extra disks. Usite Macintoshes are directly connected to the campus network, so you can follow the instructions in Section I to retrieve the software.

If you need MS-DOS software, you will find that our recommended packages are available from the menu systems on the MS-DOS machines in Usite. If you have trouble, the Computing Assistant on duty can help you.

You can also obtain printed copies of electronic-mail documentation at Usite.

Section K: Macintosh Eudora

Eudora is the program which APC recommends for sending and receiving mail from a Macintosh. To get Eudora, you will need two double-density disks. You will also need to use a program called DiskCopy. Refer to Section I for instructions on how to get programs from Jeeves.

DiskCopy is a utility which makes exact copies of disks. It is located in the "Macintosh:Utilities" folder on Jeeves. Copy the file "DiskCopy 4.2.sea" onto your hard disk and double-click it, to create a folder called "DiskCopy 4.2". Next, look in the "Macintosh:Network:Eudora:Eudora 1.3.1 Installer" folder for a file called "Eudora Installer.image" and double-click it. It should come up with a screen that says "Disk Copy"; click the mouse to continue. Next, it should say "reading master disk image." Click the "Make a Copy" button; insert your disk; repeat this process for the other disk image.

You should now have two disks named "Eudora Installer" and "Eudora Program." Place the "Eudora Installer" disk in your floppy drive and double-click on the Installer icon. The program will ask you which items to install: is your Mac connected via modem, LocalTalk or Ethernet? do you use System 6 or System 7? Follow the on-screen instructions to complete the installation.

Once *Eudora* has been successfully installed, you will need to personalize your copy. After double-clicking on the Eudora icon, select "Configuration" from the Special menu. Insert the name of your POP account (your-username@midway.uchicago.edu) in the "POP account" and "return address" boxes (see Section H). If you are using a modem, follow the instructions in the "Introduction to *Eudora*" document which you'll find on your hard drive after installing Eudora.

To send mail, choose "New Message" from the Message menu, type the electronic-mail address of the person to receive the mail after the "To:", type a subject in the "Subject:" area, and type your message after the dotted line. Click the "queue" button when you are done. Choose "Send Mail" from the File menu to send all queued messages. To check for mail, choose "Check Mail" from the File menu.

Section L: Macintosh direct network terminal access

If you are directly connected to the campus network, and are familiar with "logging in" to a Unix machine, you can use our central Sun cluster (kimbark/quads/ellis) to read your mail. You will also need a Telnet program on your Macintosh. APC supports two: *SU-Mac/IP* and *NCSA Telnet*. To use one of these, you'll also need to install the network driver *MacTCP* onto your Macintosh. *SU-Mac/IP* and *MacTCP* are free for your use under a University license; *NCSA Telnet* is freely distributable.

You can obtain *MacTCP*, and *NCSA Telnet* or *SU-Mac/IP*, along with their accompanying documentation, from APC's file server "Room Service" (see Section I). *MacTCP* is located in the Jeeves:Macintosh:Network:MacTCP folder; please read the document called "Installing MacTCP 1.1.1" for additional information. *NCSA Telnet* and *SU-Mac/IP* can also be found in Jeeves:Macintosh:Network; open the appropriate subfolder, drag the file ("Telnet2.5.sea" or "SU-Mac/IP [MacTCP] 4.01.cpt") onto your hard drive, and double-click it. This will create either *NCSA Telnet* or *SU-Mac/IP*, which you can then double-click to connect to the Sun cluster. For more information on logging in to APC's Suns, see Section R.

Section M: Macintosh dial-up terminal access

To dial in to any shared system (mainframe or minicomputer) using your Macintosh, you'll need a terminal emulation program. Unfortunately, no freely-copyable terminal emulators for the Macintosh are good enough for APC to recommend. If you need a terminal emulator for your Mac, we recommend that you buy one of the commercial packages *MicroPhone II* or *VersaTerm*. Both are available from the Campus Computer Store, in the Bookstore building at 970 E. 58th Street, room 340 (the Store's phone number is 702-6086; hours are 8:30–4:30 weekdays).

For further instructions on logging in to APC's Unix machines kimbark/quads/ellis, or other systems on the campus network, see Section Q.

Section N: MS-DOS NUPop

NUPop is a program for receiving, composing, and sending electronic mail from an MS-DOS computer. (It was written at Northwestern University and uses **Post Office Protocol**, hence the name.)

To use *NUPop*, you will need an MS-DOS computer with at least 2 Mb of available hard-drive space and 640 Kb of RAM. If you plan to use *NUPop* with your free Academic & Public Computing mailbox, you will also need your username and password (see Section H).

To install *NUPop*, first get a copy of *NUPop* — the files NUPOP103.EXE and INSTALL.EXE (see Section J).

Here are the commands you should type to copy and install the various files:

```
MKDIR C:\NUPOP (Create a directory for NUPop )

COPY A:\NUPOP103.EXE C:\NUPOP

C:\NUPOP\NUPOP103
(Extract the NUPop files. Once they are extracted, you may delete the NUPOP103.EXE file.)

COPY A:\INSTALL.EXE C:\NUPOP

C:\NUPOP\INSTALL
```

Typing `INSTALL` creates a file called `NUPOPINS.RTF`, which explains further installation steps. This file is readable by Microsoft Word or Word for Windows; if you do not have one of these programs, you can get a printed copy of the documentation at Usite (see Section J).

If you'll be using *NUPop* with a direct network connection, rather than a modem, you'll need to install a "packet driver" — a small program which allows your computer to communicate with your network card. You'll also need to find out the correct IP address, and network gateway IP address, for your PC before you can configure *NUPop*. (If your computer is already set up to run *PC/TCP*, *SU-PC/IP* or *NCSA Telnet*, you may have already done these things.)

To install the packet driver:

```
COPY PKTDRV.EXE C:\NUPOP

C:\NUPOP\PKTDRV
```

Refer to the document `INSTALL.DOC` (installed by typing the commands above) for details on your specific network card.

Don't forget to add the *NUPop* directory to your DOS path.

Once you have installed *NUPop*, start the program by typing `NUPOP`; type in your password when asked. You can now configure the program to work with your modem or network connection. (If you're using a modem, you'll also need to set the correct modem settings.)

You can check your mail in *NUPop* by pressing F2. Send mail by bringing the composer window to the front (F8), typing in your message, then pressing ALT-S (if you use a network connection) or ALT-Q (if you use a modem).

Section O: MS-DOS direct network connection terminal access

If you are directly connected to the campus network, and are familiar with "logging in" to a Unix machine, you can use our central Sun cluster (kimbark/quads/ellis) to read your mail. You will also need a Telnet program on your MS-DOS machine.

APC supports the communications program *PC/TCP*, a commercial package from FTP Software; it has Microsoft Windows applications for Telnet and FTP. *PC/TCP* is available from the Campus Computer Store, in the Bookstore building at 970 E. 58th Street, room 340 (the Store's phone number is 702-6086; hours are 8:30–4:30 weekdays).

PC/TCP requires a fair amount of networking expertise to install. If you are unfamiliar with networking software, you might want to get some help. Ask a friend, or call the APC Hotline (702-3111).

Section P: MS-DOS dial-up terminal access

To dial in to any shared system (mainframe or minicomputer) with your MS-DOS computer, you will need terminal emulation software. We recommend the freely-copyable *MS-DOS Kermit*.

You can obtain *MS-DOS Kermit*, and its accompanying documentation, from APC's file server "Room Service," but to do this, you'll need an MS-DOS computer with PhoneNet Talk software. To connect, use your PhoneNet Talk desk accessory to select "AppleShare" in the Type box. Select the CompCtr zone, then type the number given for "Room Service." Press F2 to begin logging in, then select "Guest" status. Press F2 to confirm your entries and log in. Finally, select the volume "Jeeves" and assign it a drive letter. (Please don't select any volumes to connect automatically at startup; doing so creates extra network traffic and makes things slower for everyone. You should only connect to Room Service when you actually plan to copy something.)

An easier way to get the software is to copy it from one of the PCs at Usite (the Central Users' Site in Wieboldt 310, adjacent to Harper Library); for help, please ask the Computing Assistant on duty.

For instructions on logging in to APC's Unix machines kimbark/quads/ellis, or other shared systems on the campus network, see Section Q.

Section Q: Logging in with a modem

If you want to log in to a shared system on campus with a modem, first set your terminal program to 7 data bits, even parity, 1 stop bit, no flow control. Then tell your modem to call 753-0975. If you have a 9600 bps or faster modem, you may have trouble connecting because certain options on your modem may be incompatible with the modem pool; contact the APC Hotline for assistance.

After you connect, you should get a prompt that says "ENTER CLASS". At this prompt, type the word *tip* followed by a return. The other side should reply "Enter 2 or 3 carriage returns to allow for speed recognition ... CONNECTED". Press the return key a few times until you get the prompt "cc-tip>". From here, you can type a name of a host, such as ellis or quads.

Section R: Logging in to a Unix system

After you have connected to a Unix system, whether via the network or a modem, the system will identify itself and ask for your user information. When it says "login:", type in your username. Then type your password at the "Password:" prompt (your password will not appear on the screen).

You may see a prompt like "TERM= (vt100)"; press the return key if you want to emulate a VT100 terminal (an option in most popular terminal emulators).

At this point you may get a list of unread system messages; press "q" followed by the return key to quit reading these for the time being. You'll now be at the Unix shell prompt, from which you can do various Unixlike things.

Section S: Reading mail with *mm*

APC recommends *mm* for reading mail on our shared Unix systems, because it is flexible and powerful. At your Unix shell prompt (usually `>` or `%`), type *mm* followed by the return key. As soon as *mm* starts up, it will check your electronic mailbox and show you the headers of all new messages.

Some commands (one-letter abbreviations are displayed in brackets, but the brackets are not part of the command):

At the `MM>` prompt:

- **help** or **?** gives you access to *mm*'s online help
- **[h]eaders [a]ll** shows you a list of headers for all your mail
- **[h]eaders [n]ew** shows you new headers
- **[h]eaders 1:50** shows you headers 1 through 50
- **[r]ead** reads all new mail
- **[r]ead 1:50** reads messages 1 through 50 in your personal mailbox

After you start reading, you will get an `R>` prompt. At the `R>` prompt:

- **[d]elete** deletes the current message
- pressing the return key reads the next message (or takes you back to `MM>` if there are no more messages)
- **[q]uit** takes you back to the `MM>` prompt
- **[r]eplay** replies to the message
- **[d]elete [a]ll** deletes all messages
- **[d]elete [n]ew** deletes new messages
- **[d]elete 1:50** deletes messages 1 through 50
- **expunge** permanently removes deleted messages
- **[s]end** sends a new message. You will be prompted for `To :` (who the message is to), `cc :` (carbon-copy recipients), `Subject :` (a short subject line); then type in your message. When you are finished, press the escape key. You will get an `S>` prompt. Press the return key to send the message and return to the `MM>` prompt, or **q** to return to the `MM>` prompt and not send the message.

Again at the `MM>` prompt:

- **[q]uit** quits *mm*. (This does not exit you from the Unix system, however.)

Section T: Reading mail with *mail*

Nearly all Unix systems provide the program *mail*. (It is neither flexible nor powerful, but comes pre-installed on many Unix machines.) At your Unix shell prompt (usually `>` or `%`), type *mail* to read your new mail.

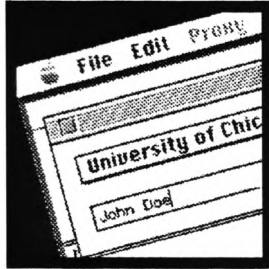
At the `&` prompt:

- **f *** shows you a list of headers for all your mail
- **f 1-50** shows you headers 1 through 50
- pressing the return key displays the current message (the one with a `>` next to it in the list)
- **t *** displays all your mail
- **t 1-10** displays messages 1 through 10
- **r** replies to the current message
- **r 30** replies to message number 30
- **d *** deletes all messages
- **d 1-50** deletes messages 1 through 50
- **m user-list** sends a message to all the people listed (in a list of electronic mail addresses separated by spaces). For example, *m a-professor@uchicago.edu j-student@uchicago.edu* would mail a message to both Joe Student and Ann Professor. You'll be prompted for a short subject for your message; then you may type the text of the message. If you decide that you don't want to send the message after all, type `~q` on a blank line to abort the send. When you have completed the message, type a control-D (the control key and 'D' at the same time) to finish. You'll be prompted for carbon copies; enter a user list or press the return key to send the message.
- **q** quits *mail*. (This does not exit you from the Unix system, however.)

Section U: Logging out from a shared Unix system

To exit from a shared Unix system, type *logout* at the Unix shell prompt (usually `>` or `%`).

(If you are dialing in via modem, you will also have to type *quit* at the `cc-tip>` prompt after you log out.)



Using the University Online Directory with Macintosh Ph

Ph is a program which allows you to get information about faculty, staff, and students from the University's online electronic directory. Using Ph, you can look up anybody's name or electronic mailbox (provided they have one registered); anyone in the directory can also choose to include other information such as their office location, office hours, and phone number. You can change the information in your own entry as well; you can even use Ph to get information about people from other universities. To use Ph, you'll need:

- A Macintosh Plus or newer machine, running System software version 6.0.3 or higher;
- An active network connection, either to a LocalTalk network that is connected to the campus-wide Ethernet, or a direct connection to the Ethernet with an adaptor board.

- The Ph program. Ph is available from the AppleShare file server "Room Service." To copy it from Room Service, use the Chooser to select first AppleShare, then the CompCtr zone, then Room Service. Log in as a guest. Select the "Jeeves" volume, and open the "Macintosh" folder. In that folder is a "Network" folder which has folders for both Ph and the required MacTCP driver.
- The MacTCP network driver, which is available from Room Service. (Installation instructions are included; see the guide "Installing the MacTCP Network Driver" in the residence-hall software binders, or the file "Installing MacTCP" in the MacTCP folder on Room Service.)

If you have any questions about Ph, call the Academic and Public Computing Hotline at 702-3111. The Hotline is open Monday through Friday, from 9 am to 5 pm.

1. Installing Ph

If you're copying Ph from the Room Service file server, note that the program is in the form of a self-extracting archive. To extract the program from the archive, just double-click the icon, and it will automatically copy the program from the archive to your disk (be sure to not to double-click the copy on the server — you must copy the archive to your own disk and double-click that copy). For more information, read the file "Copying files from Room Service" in the "Utilities" folder in the "Macintosh" folder on Room Service.

To set up the Ph program:

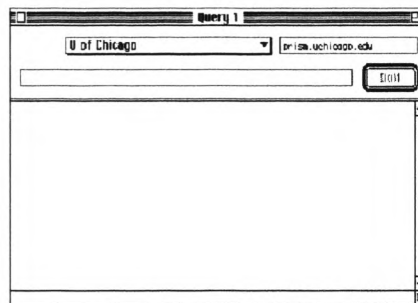
1. Copy the Ph program onto your hard disk or diskette.
2. Copy the file "Ph prefs" into the System Folder on your startup disk. (System 7 users: copy this file into the "Preferences" folder in your System Folder.)

(As yet, there is no manual for Ph. When one is available, we will place a copy on Room Service.) There is some on-line help available in the Help menu and, if you use quads or ellis, you can also look at the man page for Ph.

Now you're ready to run Ph.

2. Using Ph

1. Double-click on the Ph icon to run it.
2. A window will appear which looks like the one below. The cursor is located in the long field to the left of the DoIt button.



The screenshot shows a window titled "Query 1". At the top, there is a dropdown menu set to "U of Chicago" and a text box containing "prism.uchicago.edu". Below these is a search input field with "david walton" entered and a "Doit" button. The main area of the window displays the results of the query:

```

There was 1 match to your request.
-----
alias: d-walton
name: DAVID WALTON
email: d-walton@uchicago.edu
      : <dwalton@uiuc.edu>
office_location: Up the little stairs, past the ground-in spot on the wall...
department: University Computing Organizations
title: Staff Analyst, Academic and Public Computing
  
```

3. To get information about someone using their name, type their first and last name and then click the Doit button, or press Return.
4. Ph will quickly ask its database about the person you specified in its records and return the information in the lower portion of the window.

The screenshot shows a login window with three input fields: "Ph Server" (containing "prism.uchicago.edu"), "Alias or Name", and "Password". At the bottom right are "Cancel" and "Login" buttons.

By default, Ph returns a person's name, alias, electronic mail address (or "none registered"), and appointment or department (as applicable). If a person adds other information, some of that information, such as hours, office phone, and office location, will be displayed by default as well.

5. You can request Ph to return only specific fields of information, such as the alias or e-mail address. Just type the person that you wish Ph to search for, then the word "return," and finally the name of the fields you would like to see. Some common fields you may want to see are the alias, email, appointment, nickname, phone, office_phone, office_address, office_location, and hours fields.

For example:

David Walton return email

returns:

There was 1 match to your request.

email: dwal@midway

6. You can also request Ph to search for a person using specific fields of information. If you know someone's alias, for example, you could use it to get their name:

For example:

alias=d-walton return name

returns:

There was 1 match to your request.

name: DAVID WALTON

7. Finally, you can use special 'wildcards' to replace characters in a request. For example, if you didn't know exactly how someone's last name was spelled, you could use the question mark character to replace any unknown characters:

david walt?n return name

[was it Walten or Walton?]

There was 1 match to your request.

name: DAVID WALTON

3. Changing the information in your Ph entry

1. Select "Login..." from the File menu. A dialog box like the one below will appear. Enter your name or your alias in that field and your Ph password in the Password field. (You'll be given a password by Academic and Public Computing along with your Ph entry information. This Ph alias and password are not the same as your account name or password for quads and ellis.) Then, click the Login button or press Return.

Ph Server: prism.uchicago.edu

Alias or Name:

Password:

Cancel Login

2. Once you've correctly logged in, Ph will put up a window to let you edit the fields of your entry. With a few exceptions, the window behaves just like a standard Macintosh text editing window. Use the mouse to position the cursor and type. Use the scroll bars, zoom box, and close box just as you normally would. You can use the Tab key to move through the editable fields. You'll notice that some fields have special symbols next to them. The "→" character appears next to fields that cannot be changed, such as your name and alias; a bullet (•) character appears next to any fields you have edited. If you make a mistake, you can revert the fields to their previous values by clicking on either the Revert Field or Revert All Fields button.

j-user (login)

☐ Show Field Info Revert Field Revert All Fields • = Field Changed → = Can't Edit Field

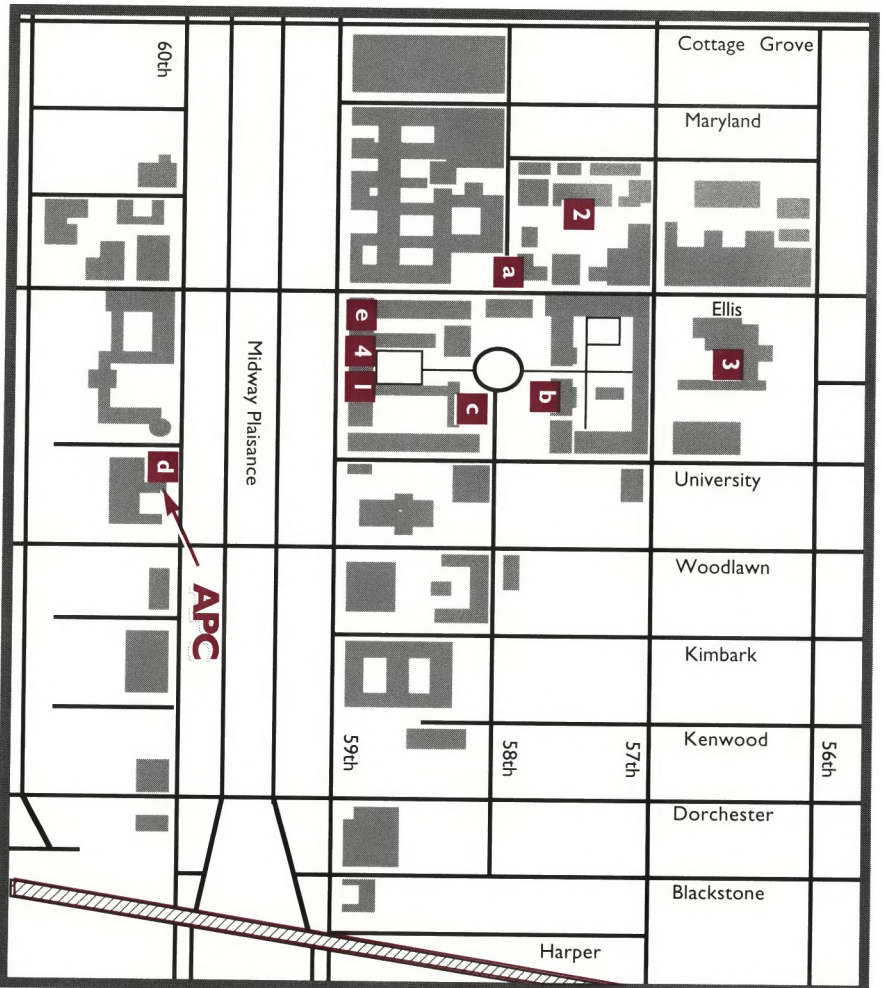
alias:~j-user
name:~JDE USER
email: juse@midway
nickname:
aka:
phone:
office_phone: 555-1212
home_phone:
fax:
permanent_phone:
address:
office_address: In an office building far, far away...
office_location:•Up the little stairs, past the ground-in spot on the wall...
home_address:
permanent_address:
type:~person staff
password:~Passwords are never displayed. To change the password, use the "Change Password" command in the "File" menu.
proxy:
paper:

3. When you finish making changes, click the close box to close the window. You'll be asked if you want to save the changes you made. Click on the Save button or press Return if you do.

Ph can provide you with a great deal of helpful information and provide others with a means of getting information about you. Please be responsible with the information you provide, and don't abuse any of the available information about others. The standard fields (name, appointment, department, alias) will be updated once per quarter for students and faculty, once per month for staff. Any fields that you can change (office hours, phone, etc.) will NOT be changed in the update process, so the information you specify in these fields will remain intact.

Campus Map

[t o C o m p u t e r F a c i l i t i e s & R e s o u r c e s]



APC Computing Facilities

APC

Academic & Public Computing
1155 E. 60th Street, 3rd Floor
702.7151

1 APC CLASSROOM

West Tower
Harper 406

2 CRERAR LIBRARY COMPUTING LAB

Room 004
702.8923

3 REGENSTEIN LIBRARY COMPUTING LAB

Room 201
702.7893

4 USITE COMPUTING LAB

Wieboldt 310
(enter through Harper Library
or Quads entrance)
702.7894

Other Campus Computing Facilities

b COMPUTER SCIENCE INSTRUCTIONAL LAB

Ryerson Annex 178 • 702.1082

d SOCIAL SCIENCES/ PUBLIC POLICY COMPUTING CENTER

Rooms 041-062
1155 E. 60th Street • 702.0793

a CAMPUS COMPUTER STORES

Sales • Computer Repairs
Bookstore Building, Room 340
702.6086

c GSB COMPUTING LAB

Walker 307 • 702.7149

e WALSH HUMANITIES COMPUTING FACILITY

Classics 14 • 702.3542



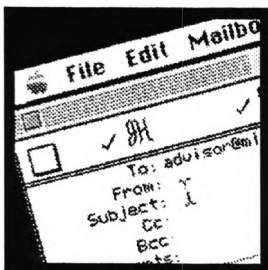
Academic & Public Computing
The University of Chicago
1155 East 60th Street
Chicago, Illinois 60637-2745

4. Changing your Ph password

You will automatically be assigned a password when your entry is created in the Ph database, which is given to you with the rest of the information about your Ph entry (this password is separate from the password you use to log in to ellis and quads). It's a good idea to change this password soon after you get it. To change your password, follow these steps:

1. Choose the "Login..." command from the File menu, and log in just as you would to change any other information about your entry (see part 3, step 1).
2. Choose the "Change password" command from the File menu. You'll then be prompted to type in your new password twice (to verify that you typed it correctly). The password will not show up on the screen; the characters will be disguised as bullets (•).

If you typed in your password correctly both times, Ph will send your new password up to the database to be recorded. The change will take effect immediately.



Electronic mail on the Macintosh using Eudora

Eudora is a program which allows you to read, send, and manage your electronic mail with a user-friendly Macintosh interface. To use Eudora, you'll need the following hardware and software:

- A Macintosh Plus or newer machine running System software version 6.0.5 or higher.
- The Eudora program. The most recent version (currently 1.3.1) is available from the AppleShare file server "Room Service."
- Either an active network connection (directly to the campus-wide Ethernet or to a LocalTalk network that's connected to the Ethernet), or a modem or other serial connection.
- Your kimbark, quads & ellis username, which is assigned by Academic and Public Computing. If you need a username or password, please call the APC Hotline for information on how to get them.

If you're using Eudora over a network, you'll also need:

- The MacTCP network driver, which is included in the Eudora installation disk images on the Room Service file server. Note that MacTCP 1.1.1 has been released. If you are using an older version, the Eudora Installer will update it. If you have the current version of Eudora, you should upgrade MacTCP by dragging it into the System Folder.

If you're using Eudora with a modem or other serial connection, you'll need:

- The Macintosh Communications Toolbox, which is included in the Eudora installation disk images on the Room Service file server.

If you have any questions or problems with Eudora, talk to your local network administrator, or call the Academic and Public Computing Hotline at 702-3111. The Hotline is open Monday through Friday, 9am–5 pm.

1. Installation instructions

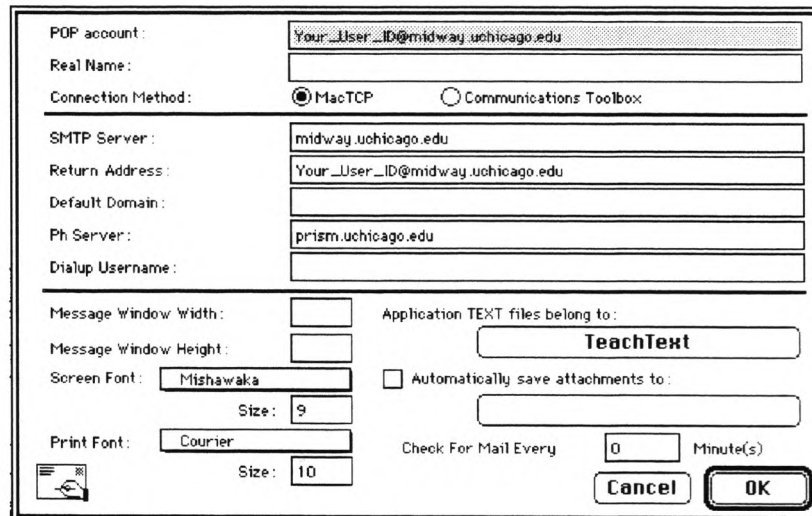
To copy the Eudora program and documentation from Room Service, use the Chooser to select first AppleShare, then the CompCtr zone, then Room Service. Log in as a guest. Select the "Jeeves" volume, and open the "Macintosh" folder. In that folder is a "Network" folder which contains a "Eudora" folder with the TeachText document "READ ME FIRST!" and two disk images for our Eudora installer, which includes the networking software required to run Eudora. "READ ME FIRST!" contains the following instructions for installing Eudora. You'll need to have two completely blank 800k floppy disks to copy the images onto.

NOTE: If you are currently using Eudora and simply want to upgrade to version 1.3.1, all you have to do is replace your Eudora application with the one in the folder "Upgrading to 1.3.1". If you are not using the most recent version of MacTCP, we recommend upgrading. We also recommend upgrading to the latest Apple Modem Tool. You will also have to check your modem settings and the script menu.

1. The two images are named "Eudora Installer.image," "Eudora Program.image." The files have been created by the DiskCopy program, and will not fit on a normal floppy disk because they contain an exact picture or "image" of a normal floppy, plus some housekeeping information. To place the contents of the images on floppies, you will need to use the DiskCopy program which is available in the "Utilities" folder, which is in the "Macintosh" folder on Jeeves. Copy the DiskCopy program and the three images in the Eudora folder to your hard disk.
2. To use the DiskCopy program, double-click on its icon. If the name of the program is "DiskCopy.sea" you have a compacted version of the program; double-clicking on it will uncompact it. Once the DiskCopy.sea file is done uncompacting, you can use the program by double-clicking on it. You can also trash the compacted archive, as you will not need it anymore.
3. When the DiskCopy is running, open one of the images by selecting "Load image file..." from the File menu. You will be presented with the standard file dialog. Find the "Eudora Installer.image" file and click on the Open button. DiskCopy will then load the image into memory, and then open a window with a Start Copy button. Click the Start Copy button. You will be asked to insert a floppy disk. **Make sure the floppy is new or has no files that you need, because it will be completely erased by the DiskCopy program.** When the copying is finished, the floppy disk will be automatically ejected. Repeat the process for the other disk image.
4. When you have finished, you should have two floppy disks named "Eudora Installer," "Eudora Program." After you have made floppies from all the images, you will no longer need the image files on your hard disk, and you can trash them.
5. To actually install Eudora, place the "Eudora Installer" disk in the floppy drive and double-click on the Installer application icon. Once the Installer application is running, you should be able to follow the on-screen

instructions for the rest of the installation process. When the installation is finished, you should restart the computer before using Eudora.

6. Double-click on the "Eudora 1.3.1" icon in your "Eudora f" to start the program. Once the program is open, choose the "Preferences" command from the Special menu. The dialog box below will appear. Replace the "Your_User_ID" in the "POP account" and "Return Address" fields with your username (leave the part "@midway.uchicago.edu" intact). If you are using Eudora with a modem or other serial connection, click the "Communications Toolbox" button for the Connection Method; otherwise, select "MacTCP." You can change the rest of the settings in the bottom portion of the window (screen font, printer font, etc.) to suit your preferences. When you are finished, click OK.

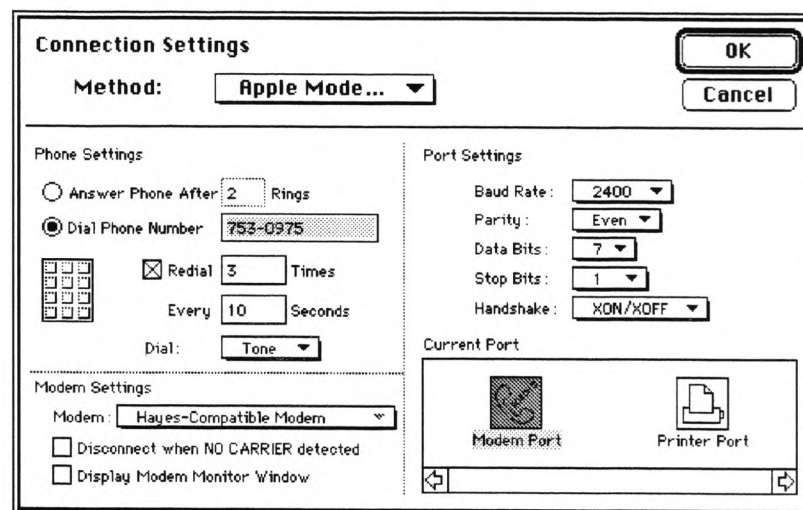


The Eudora Preferences dialog box is shown with the following settings:

- POP account: Your_User_ID@midway.uchicago.edu
- Real Name: (empty)
- Connection Method: ☒ MacTCP, ☐ Communications Toolbox
- SMTP Server: midway.uchicago.edu
- Return Address: Your_User_ID@midway.uchicago.edu
- Default Domain: (empty)
- Ph Server: prism.uchicago.edu
- Dialup Username: (empty)
- Message Window Width: (empty)
- Message Window Height: (empty)
- Screen Font: Mishawaka, Size: 9
- Print Font: Courier, Size: 10
- Application TEXT files belong to: TeachText
- ☐ Automatically save attachments to: (empty)
- Check For Mail Every: 0 Minute(s)
- Buttons: Cancel, OK

7. Network users are now done. Modem users will have to configure the Communications Tool Box.

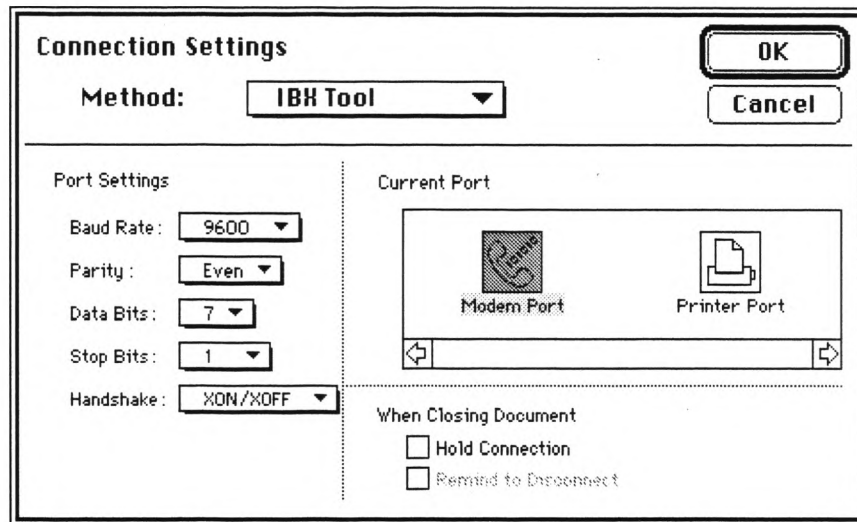
2400 baud or less modem: Select the Apple Modem Tool from the Method pop-up. The phone number should be 753-0975. Set the modem type to Hayes-Compatible Modem, the baud rate to the baud rate of your modem, the parity to even, the data bits to 7, the stop bits to 1, and the handshake to XON/XOFF. Select UC Modem script from the Script menu under the Special menu.



The Connection Settings dialog box is shown with the following settings:

- Method: Apple Mode...
- Phone Settings:
 - ☐ Answer Phone After: 2 Rings
 - ☒ Dial Phone Number: 753-0975
 - ☒ Redial: 3 Times, Every 10 Seconds
 - Dial: Tone
- Modem Settings:
 - Modem: Hayes-Compatible Modem
 - ☐ Disconnect when NO CARRIER detected
 - ☐ Display Modem Monitor Window
- Port Settings:
 - Baud Rate: 2400
 - Parity: Even
 - Data Bits: 7
 - Stop Bits: 1
 - Handshake: XON/XOFF
- Current Port:
 - Modem Port (selected)
 - Printer Port
- Buttons: OK, Cancel

9600 baud or faster modem: Modems faster than 2400 baud are problematic. At the time this document was written, the maximum speed of the university modem pool was 9600 baud. Also, the modem pool does not support auto-bauding or hardware handshake. Until this is rectified, all we can do is give general advice. Select the Apple Modem Tool from the Method pop-up. The baud rate for all modems faster than 2400 should be 9600. Set the parity to even, the data bits to 7, the stop bits to 1, and the handshake to XON/XOFF. Try choosing Hayes-Compatible Modem from the modem settings. If this does not work, try Generic V.32 Modem. If that does not work, consult the troubleshooting document, and then call the Academic and Public Computing Hotline (702-3111 Monday–Friday, 9 to 5). Select UC Modem script from the Script menu under the Special menu.



IBX data phones: Select the IBX Tool from the method menu. Set the baud rate to 9600, the parity to even, the data bits to 7, the stop bits to 1, and the handshake to XON/XOFF. Select UC IBX Script from the Script menu under the special menu.

8. Now you are ready to use Eudora. At this time we cannot distribute the full documentation on disk (it is too large). Copies are available at APC public sites, or from the file server Room Service (see installation notes above).

2. Using Eudora to read and send electronic mail

Reading mail

1. Double-click the "Eudora 1.3.1" icon to start Eudora.
2. Select Check Mail from the File menu. When prompted, enter the password associated with your username.
3. Any new mail will appear in your "In" mailbox. Select "In" from the Mailbox menu. A window will appear with a list of all the mail you have received, both read and unread. The first column of the "In" window is the status of the message. Bullets mark unread messages. R stands for replied, D for redirected, F for forwarded, Q for queued, S for sent, and – for never sent. The second column contains the name of the sender. The

third column contains the date the messages were sent. The fourth contains the size of the message in kilobytes (1 K is 1024 characters). The fifth column is the subject of the message.

In				
	deborah.jean...	3:43 PM 2/22/...	2	[sauc (UC Crime Notification Progr
	Brad Morris	4:30 PM 2/22/...	1	Hotline shift Tuesday @ 9:00
•	Brad Morris	8:30 AM 2/23/...	1	Hotline shift Tuesday @ 9:00
R	ggee@midway...	9:22 AM 2/23/...	1	Re: on-line cat
R	ggee@midway...	9:28 AM 2/23/...	1	modem and Eudora
R	w-ross@uchic...	10:28 AM 2/23/...	1	survival
	David Bantz	11:56 AM 2/23/...	1	Apple Campus Support Seminar today
	David Baird	11:58 AM 2/23/...	1	window washers
	David Bantz	1:14 PM 2/23/...	4	Re: FYI- System 7 update
	donald.goldh...	1:30 PM 2/23/...	1	APC Seminar on the MIT X Technical
•	David Bantz	3:01 PM 2/23/...	1	Re: survival
•	David Bantz	3:37 PM 2/23/...	1	Appleshare 3.0.1
722/1461K/6K				

4. To read a message, just double-click on it. A window will appear with the message and a header which displays information about the message, such as who sent it. Use the scroll bars, zoom box, and close box as you would in any standard Macintosh window.

5. When you are finished reading the message, click on the close box and you will return to the "In" window. Read other messages in the same way.

Sending mail

1. Once you are in the Eudora program, choose the "New Message" command from the Message menu. A window will appear with a header at the top and space to type a message at the bottom. This is a standard Macintosh window with scroll bars, a close box, a zoom box, and normal text editing capabilities.

«No Recipient», «No Subject»	
<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
<div> <div>To:</div> <div>From: b-morris@uchicago.edu (Brad Morris)</div> <div>Subject:</div> <div>Cc:</div> <div>Bcc:</div> <div>Attachments:</div> </div>	
<div> <div>TEXT</div> <div>HGX</div> <div>Send</div> </div>	

2. The cursor is placed automatically in the first field (next to the word "To"). Enter the address of the person you want to send mail to (you can use multiple addresses at one time by separating them with commas). Be sure to use the correct address form and punctuation. One commonly-used form of electronic mail address is:

username@machinename.institution.institutiontype

For example, you can direct computing questions to the address

advisor@midway.uchicago.edu

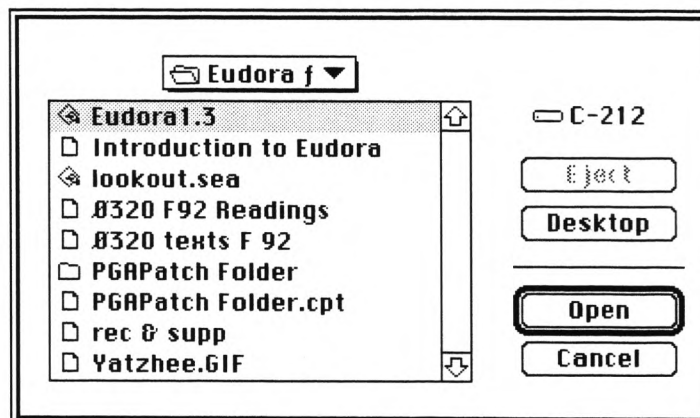
There are many different forms of electronic mail addresses, however, so don't expect every address to look like this one. In general, if you're going to send someone mail, you'll have to find out their electronic mail address in advance. It's just like sending regular U.S. Mail: the best way to get somebody's address is just to ask them.

NOTE: The Eudora manual describes how to create nicknames for addresses that you use often, so you don't have to type in an entire address every time you use it.

3. Move to the "Subject" field by pressing TAB or using the mouse to move the insertion point. Type a title for the message. Notice that the "From" field was skipped. Eudora automatically places your return address in that field.
4. Press TAB again or use the mouse. Enter an address in the "Cc" field if you would like to send a carbon copy of the message to someone, or in the "Bcc" field for a blind carbon copy. As with the "To" field, you can enter multiple addresses by separating them with commas. The contents of the "Bcc" field will not appear to any of the recipients.
5. Press TAB again or use the mouse to position the cursor below the dotted line. This is where you enter the text of your message.
6. Edit the message just like any Macintosh text. You can cut and paste text into this window, but if you want to send graphics, formatted text, or Macintosh-specific files to someone else with Eudora, send those items as attachments.
7. When you are ready to send your message, click on the "Send" button. Eudora will display a box with some status information as it sends the message out, which will disappear as soon as the message is sent. If you are using a modem, use the "Queue" button. When you have prepared all your messages, choose Check Mail from the File menu. This will send messages as well as receive new messages.
8. Eudora will automatically keep copies of all the messages you send. Choose "Out" from the Mailbox menu to see all the messages you have sent.

Attaching files

1. Select "Attach document" from the Message menu.



2. Find which document you want by selecting it from the standard file open dialog box. Click and drag down the folder name to get to a previous folder. Double click a folder to open it.
3. When you have found the document, click Open.
4. The name of the document will be placed next to the Attachments space. If you would like to remove a document, click on the document name and press the backspace or delete key.
5. If the person you are sending the message to is a Eudora or a QuickMail user, they will automatically have the enclosure decoded as a regular Mac file. If the person is not using a Mac, or does not use Macintosh-based e-mail, they may have difficulty decoding the enclosure. Make sure anyone you send enclosures to knows how to un-BinHex files.

Replying to messages

1. Replying is just like sending new messages, but you don't have to fill in the address of the person you are sending to. Open the message you would like to reply to by double-clicking it from the "In" window.
2. Choose "Reply" from the Message menu. Eudora will fill in the "To" and "Subject" lines (with the person who sent the original message, and the title with a "Re:" appended).
3. The text of the message sent to you will be quoted (the Internet way of quoting someone is to use ">"). You may wish to use some or all of this text in a reply.
4. When you are done with the message, follow step 7 under "sending mail" to actually send the reply.

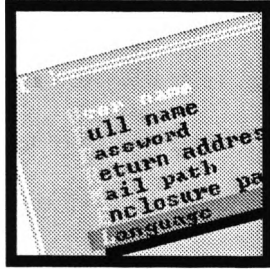
Deleting messages

1. Click on the message in the "In" window (or press and hold the command key while you click several messages) you wish to delete.
2. Choose "Delete" from the Message menu.
3. When you quit Eudora, the messages will be permanently removed.

Printing messages

1. Find the message you want to print in the "In" screen and double-click it.
2. Choose "Print" from the File menu.
3. Click "Print" in the printer dialog box.

Eudora is capable of much more than is outlined in this brief introduction. For more detailed information, read the Eudora tutorial and reference guides (which are available at Academic and Public Computing public sites, or on the Room Service volume Jeeves).



Electronic mail on MS-DOS using NUPop

a brief introduction

Introduction and system requirements

NUPop is a program which allows you to read, send, and manage your electronic mail with a user-friendly MS-DOS interface. To use *NUPop*, you'll need the following hardware and software:

- A MS-DOS machine running DOS 3.0 or higher, with at least 460K free RAM **after** DOS, Windows (if you are using it) and any packet drivers are installed.
- A modem (if you are using one instead of a network connection) which supports the AT command set (Hayes-compatible commands for connection parameters).
- The University distribution of *NUPop*, which contains all of the files and packet drivers you will need.

Installation

You can get NUPop from Usite (the central computing lab in Wieboldt 310, adjacent to Harper Library). You can also get it from Room Service, if you have PhoneNet Talk software installed on your PC. To do this, use your PhoneNet Talk desk accessory to select "AppleShare" in the Type box. Select the CompCtr zone, then type the number given for "Room Service." Press F2 to begin logging in, then select "Guest" status. Press F2 to confirm your entries and log in. Finally, select the volume "Jeeves" and assign it a drive letter.

Whichever way you get it, the *NUPop* distribution has four files:

NUPOP103.EXE	A self-extracting archive containing the <i>NUPop</i> files.
INSTALL.EXE	A self-extracting archive containing the installation manual, "INSTALL.RTF". This manual is in Rich Text Format (RTF). If your word processor is unable to understand RTF, you can get a printed copy of the manual at Usite.
USERDOC.RTF	Rich Text Format version of the users guide. See the note above.
PKTDRV.EXE	Network packet drivers. These are only necessary if you have an Ethernet connection.

To put NUPop on your hard disk from a floppy in the A: drive, type:

```
MKDIR C:\NUPOP
MKDIR C:\MAIL
COPY A:\NUPOP103.EXE C:/NUPOP
C:\NUPOP103
```

To also copy the RTF documentation, type:

```
COPY A:\INSTALL.EXE C:\NUPOP
C:\INSTALL.EXE
COPY A:\USERDOC.RTF C:\NUPOP
```

To copy the packet drivers onto your hard drive, type:

```
COPY A:\PKTDRV.EXE C:\NUPOP
C:\NUPOP\PKTDRV
```

The C:\MAIL directory will house your mail itself. This will allow you to upgrade *NUPop* without disturbing your saved mail.

The version of *NUPop* we distribute is pre-configured to work with an Ethernet card at the University of Chicago. If you're using a modem or LocalTalk, the installation procedure will differ; we'll describe this below.

If you plan to connect your computer to the Ethernet network to use *NUPop*, you will need an Ethernet card. Since there are three types of Ethernet wiring (thick, thin and 10baseT), you will probably need to ask a local expert which kind of card you need. You will also have to configure your card to work with your machine. Hardware interrupts, shared memory, I/O address, and other parameters should be checked before the card is installed. Setting any of these incorrectly may cause your machine to stop working. Ask a local support person for help, or call the Academic & Public Computing Hotline: 702-3111, weekdays from 9 am to 5 pm.

You will also need an IP address, which is a unique identifier for your machine on the Internet. You should consult a local expert to get this information; if you need assistance, call the Hotline.

After you install your network card, you will need to install a packet driver, a small program which loads when your computer starts up. A packet driver acts as a go-between for your network software and your network

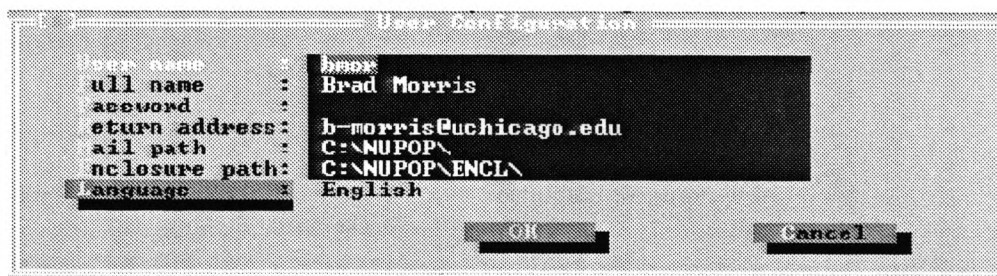
card. Unfortunately, each type of network card has a different packet driver and may need to be installed differently. Most packet drivers need to know a software interrupt number (we suggest 0x60), and hardware interrupt, shared memory and I/O memory. More information about packet drivers is in the INSTALL.DOC document included with the PKTDRV.EXE program.

Setting up your packet drivers and IP numbers can be a very complicated process. If you are not familiar with networking software, we recommend that you consult your local network administrator or systems guru. If they are not available, call the APC Hotline.

Configuration

The first time you run *NUPop*, you should configure it for your network and preferences; after that *NUPop* will remember how you configured it. All of the configuration screens can also be reached from the Option menu.

Choose "User..." from the Options menu. This will allow you to specify your POPmail server, username, password, and directories for your mail and enclosures.



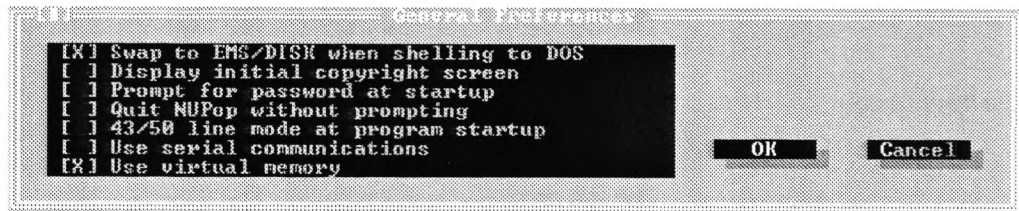
[What it asks]

[What you should enter]

User name	Your username — not your Ph alias. (Example: bmor).
Full name	Your full name. (Example: Brad Morris)
Password	Optional: The password to your UNIX/POPmail account.
Return address	The address to which replies to your mail will be sent. (Example: bmor@midway.uchicago.edu)
Mail path	Path to the directory in which <i>NUPop</i> places your mail files. (Example: C:\MAIL)
Enclosure path	Optional: Path to the directory in which <i>NUPop</i> will place all enclosed BinHexed files.
Language	Specifies what replacement set of characters will be used; the default is English.

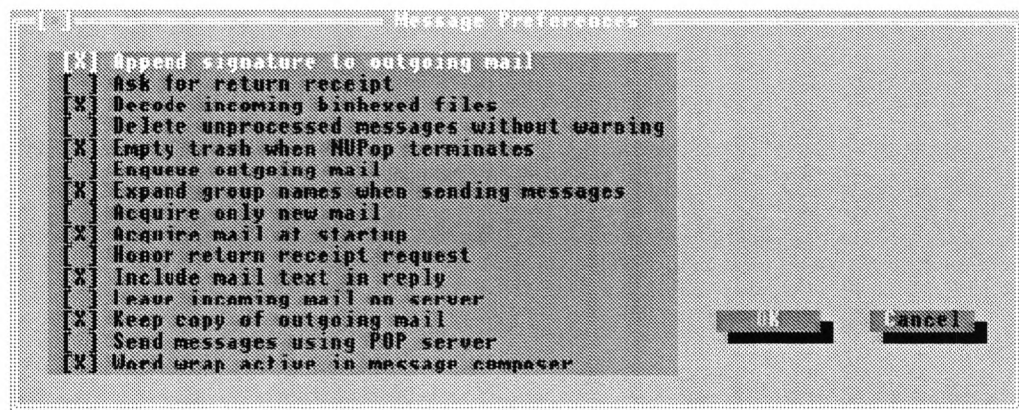
You need not enter your password, and we strongly recommend that you do not; the time and occasional hassle of repeated re-entry is worth the vast increase in security. If your password is entered into the configuration file, anyone who uses that particular *NUPOP* installation can read your mail.

Next, select “Preferences” from the Options menu, then “General.” You’ll be asked how you want *NUPOP* to interact with your machine:



[Option]	[Explanation]
Swap to EMS/Disk, when shelling to DOS	Frees up memory by swapping the program to a temporary file when not in use.
Display initial copyright screen	Displays the <i>NUPOP</i> copyright and credits.
Prompt for password at startup	Prompts for your password each time you log in; the password will not be stored.
Quit <i>NUPOP</i> without prompting	Prevents the program from asking “Are you certain?” every time you choose QUIT or use Alt-X.
43/50 line mode at program startup	Automatically starts the program in high-resolution graphics mode.
Use serial communications	Must be checked if you are using a modem connection.
Use virtual memory	Allows <i>NUPOP</i> to use virtual memory; keep this enabled.

Next, select “Message” from the “Preferences” choice on the Options menu. You’ll be asked about your message preference:



[Option]	[Explanation]
Append signature to outgoing mail	Appends your signature text to each outgoing message (Use Options/Signature to define this text).
Ask for return receipt	Asks the receiving system to respond when your mail is received (only some systems will do this).
Decode incoming BinHexed files	Decides whether incoming enclosures are decoded; check this.
Delete unprocessed messages without warning	Does not warn you when you try to delete an unread message or discard an unsent message.
Empty trash when <i>NUPop</i> terminates	Expunges deleted messages upon leaving program; if this is not checked, they remain in the Trash.
Enqueue outgoing mail	Puts the mail in a queue to be sent (default is to send as soon as a message is composed). Modem users should check this, network users should not.
Expand group names when sending messages	Automatically replaces group names with the actual email addresses of the individuals in the group; check this.
Acquire only new mail	Retrieves only new mail from the POP server.
Acquire mail at startup	Acquires new mail when you start the program.
Honor return receipt request	Sends a return receipt to any system asking for one.
Include mail text in reply	Places a copy of the incoming message in the Composer window of your reply.
Leave incoming mail on server	Leaves a copy of downloaded messages on server. Do not check this unless you clear out messages from the server some other way.
Keep copy of outgoing mail	Keeps a copy of every message you send. Check this.
Send messages using POP server	Do not use on University of Chicago machines.
Word wrap active in message composer	Wraps long lines of text; leave checked.

Next, choose "Network..." from the Options menu:

Network Settings

incoming mail server (POP) **midway.uchicago.edu**
 outgoing mail server (SMTP) **midway.uchicago.edu**
 email address server (PH) **prism.uchicago.edu**
 finger server **ellis.uchicago.edu**
 telnet server
 webster server
 your IP address **128.135.12.90**

Time Zone... CST

Advanced...

Gateways		Name Servers	
1st IP address	128.135.12.15	128.135.12.73	
2nd IP address	0.0.0.0	128.135.4.2	
3rd IP address	0.0.0.0	128.135.20.100	
4th IP address	0.0.0.0	0.0.0.0	

OK Cancel

If you are connecting by modem you will not need an IP address or a gateway address. At the University of Chicago, your incoming mail server is most likely to be midway.uchicago.edu. If you read mail on quads, ellis, or kimbark, midway is your incoming POPmail server. If you read mail from a different machine, verify with your systems staff that it is a POPmail server before entering it as one.

Depending on the kind of connection you are using, and the IP number of your Ethernet connection (if applicable) you will need to use different values for your gateway:

[Your means of connection] [The gateway number you should enter]

(or first three numbers of your IP address)

LocalTalk	0.0.0.0
128.135.12	128.135.12.15
128.135.136	128.135.136.17
128.135.something-else	128.135.something-else.1

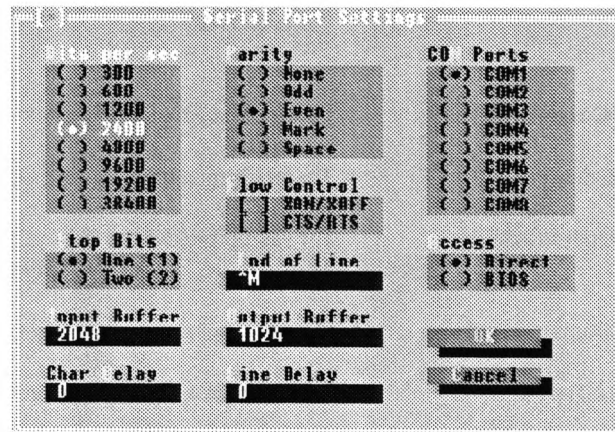
Your name servers should be 128.135.12.73, 128.135.4.2, and 128.135.20.100. The incoming and outgoing mail servers will be midway.uchicago.edu, unless you are not using your APC username. The email address server should be prism.uchicago.edu. For Finger and Telnet servers, use the name of the machine you normally log in to; leave "Webster server" blank.

You'll need to get an IP address from your local network administrator. If you are using a LocalTalk board, enter 0.0.0.0.

If you're a network user, you're now done. If you use a modem, you'll still have to configure serial options and dialing options.

Further configuration for modem users

Choose "Serial..." from the Options menu:



[Option]

[Explanation]

Bits per second

The rate at which your modem can connect. Do not use a speed greater than 9600 bps for connecting to University of Chicago systems.

Stop bits

1

Input buffer

The size of the buffer for serial communications. Set it to 2048 unless you're connecting at 9600 bps (in which case, use 8192).

Parity

even

Flow control

none (do not check either box)

All other categories

These categories only come into play if you have very unusual hardware or networking problems. If you have difficulties, call the APC Hotline at 702-3111.

Next, choose "Dialing..." from the Options menu:



[Category]	[You should enter]
Modem init	The initialization string for the modem.
Number to call	The appropriate number, depending on where you are, for your POPmail server.
Dialup command	The command your modem uses to dial.
Hangup command	A command to hang up your modem.
Wait time	Time in seconds to wait for a connection.

Some high-speed modems have trouble connecting to the University modem pool because they want to connect at a higher speed than the modem pool can support (faster than 9600 bps), or with compression and autobauding, which cause problems for our modems. In order to get these modems to work with our modem pool, you must enter a custom initialization string in the Modem Init space. If your modem is not listed below, read your modem manual for instructions on how to disable compression, speeds greater than 9600 bps, and autobauding. If you need further assistance, please contact the APC Hotline.

Modem brand	Initialization String
Supra V.32 Bis, Zoom V.32 Bis	AT&C1 &D2 N0

(Note that the 0 above is a zero, not the letter 'O'.)

Using NUPop

Starting the program

To start *NUPop* you execute it as you would any other DOS program: move to the directory it's in, and type its name.

Depending on the options you have set, you will see a copyright screen displayed. Then a screen will appear with your username and full name, and you'll be asked to enter your password. If you hit the Cancel button, you will be asked later at the appropriate time.

Again, depending on your options, *NUPop* will now check for and download any new mail.

At any time during a *NUPop* session, you can quit by using Alt-X.

Online help

NUPop has context-sensitive online help for whatever item or object is selected on the screen. F1 is the key to request this help. While the documentation is not complete, it can be very useful as a reminder.

The interface

NUPop follows many standard DOS interface conventions. While it can be used with a mouse, a mouse is not required. This section will give you the basics of how to deal with the pull-down menus and menu items, so if you are an experienced DOS user you can skip to the next section, returning here only if things do not seem to work properly.

To select an item in a pull-down menu with a mouse, move the mouse over that menu, push and hold the left mouse button (if you have more than one), dragging down the menu until you come to the item you want.

To work without a mouse, the important keys are Esc, Alt, Tab, Enter, the arrow keys and the space bar:

- Tab, when used, skips to the next item or group of items. In a single group, it moves from item to item; in the menu bar, it moves from menu to menu.
- Alt is used for key equivalents. (This is also a useful thing to know if you're working with a mouse, as key equivalents allow you to enter commands without your hands leaving the keyboard.) If a letter is highlighted in a menu, menu item, or button, hitting Alt-(that key) will cause that effect. For example, Alt-F selects the File Menu.

To pick a menu item, select the menu with the Alt-key for that menu, then type the highlighted letter in the text of the item (you don't need to type Alt again). You can also use the arrow keys and the Enter key to select, moving down to the item you wish and typing Enter.

You can move through buttons and checkboxes with tabs. Buttons can be selected with Enter, and a checkbox can be checked or unchecked with the space key.

Windows in *NUPop*

There are three main windows in *NUPop*, each with its own function:

- The Index window, which can be reached by typing F9, or by choosing "Index" from the Window menu, lists the messages in the current *NUPop* mailbox.
- The Composer window, which can be reached by typing F8 or through the Window menu, allows you to prepare, edit, and send outgoing messages.
- The Viewer window, which is reached by typing F7 or through the Window menu, displays incoming mail.

Mailboxes

NUPop stores the mail it handles in mailboxes. It automatically creates mailboxes named "IN", "OUT", "SENT", and "TRASH". For the most part, you will not need to deal directly with mailboxes; *NUPop* handles them by itself. If you wish to manipulate them directly, using a word processor to read a file or using DOS to delete messages, you can use DOS commands to move to the directory MAIL (which is located wherever you installed it). Each mailbox will be listed as (filename).MBX. To change mailboxes within *NUPop*, choose "Change Mail-box..." from the Mailbox menu; this will bring up a list of existing mailbox names. Select the mailbox you wish to change to, and click "OK". To create a new mailbox, type a new mailbox name in the blank and click "OK".

Sending mail

To send mail in *NUPop*, bring the Composer window to the front. This can be done by selecting the window with the mouse, or by choosing "New" from the Message menu.

At the top of the screen is a box with three options — To:, CC:, and BCC: — each with a button and a place for a check-mark next to it. The button indicates which field can currently be edited, while a check means that there is information in the field.

In the To: box, enter the email address of the person you wish to send the message to. If you wish to send a message to more than one person, use commas between their addresses.

- **Caution:** use full Internet addresses. *NUPop* interprets addresses without "@" signs as either *NUPop* groups or local addresses, but it checks for groups first. If you have a group named "fred" and a person with the username "fred" on your local machine, *NUPop* will interpret "fred" as your group; to send to the latter, address your mail to fred@yourmachine.uchicago.edu.

The fields Cc: and BCC: are for sending copies of a message to a person other than the main recipient(s). Cc: copies are visible to the primary recipient of the mail, while BCC: (blind) copies are not.

In the Subject: box there is space for a one-line descriptive title of the message, which will be displayed by the recipient's mail reader.

The Text: box contains the text of the message. This can be edited using the arrow, tab, and return keys. The text of your message cannot contain bold, italic, underlined, or differently-sized characters, as they cannot be sent through standard email.

The method to send a completed message varies according to whether or not you have set the "Queue Outgoing Mail?" option during configuration. If you have not, press the Send button, or type Alt-S, and *NUPop* will send the message immediately (if you haven't saved your password, you'll be prompted for it here). If you have, press the Queue button, or Alt-Q, which will store the file in the Out box; to send letters in the Out box, select "Send Queued Messages" from the Mailbox menu.

Enclosures

NUPop can send more than just normal text via email, to people equipped to decode it. Before using enclosures, make sure that the recipient(s) of your mail can decode them; to do so, they'll need to be able to un-BinHex files. To enclose files, click the Enclose button in the Composer window, and select the file(s) you want.

Receiving mail

Mail is stored on your POPmail server until *NUPop* acquires it. You can set your preferences so that *NUPop* will automatically acquire mail when it is started up. If this is not done, however, pressing F2, or choosing "Acquire Messages" from the Mailbox menu, will tell *NUPop* to bring mail down from your server. If you do not have your password stored, you'll be prompted for it every time *NUPop* acquires mail.

To read your new messages, bring the Index window to the front. The listing on your screen will be of your current mailbox. All new messages go at first into the "IN" mailbox. The highlighted message is the one which will be read if you bring up the Viewer window. (Note: double-clicking with the mouse does not open a message.)

Once in the Viewer window, you can use the Next and Previous buttons to go to other messages, Forward to send a message on to another person, or Reply to send a response to the reply-address of the incoming message.

Other operations on messages

NUPop can perform other operations on messages. All of these options appear under the Mailbox menu. In the table below, an operation described as "checked" operates not only on the message selected, but on other messages checked. C, V, and I indicate which of the three windows — Composer, Viewer, Index — the command will work in.

[Command]	[Explanation]	[Checked?]	[Where]
Append from file	Allows you to append ASCII text from a file to the message you are composing.	No	C
Copy	Copies the selected messages to another mailbox.	Yes	V, I
Delete	Deletes the selected messages.	Yes	V, I
Edit	Creates a new message by editing a copy of an existing message in the Composer.	No	V, I
Forward	Forwards message to another recipient.	No	V
New	Allows you to compose a new message.	No	V, I
Reply	Brings up the Composer window to reply.	No	V, I
Save to file	Allows you to save a message to a file.	No	C, V
Send again	Re-sends a failed message, extracting the text and putting it in a new Compose message for you to enter a new address.	No	V, I
Transfer	Transfers message to another mailbox.	Yes	V, I
Write to file	Writes the body of a message, without its headers, to a file.	No	C, V



Logging in to quads, ellis, and kimbark

The following information will help you log in to quads, ellis, and kimbark, the public Unix machines operated by Academic & Public Computing. If you have an account on our Silicon Graphics research system “rainbow,” the MVS system (an Amdahl 5880 run by Networking and Large-Scale Computing), or a machine run by your department, you should consult the instructions given to you when you opened your account.

If you have any problems with the instructions in this document, you can call the Academic & Public Computing Hotline (Monday through Friday, 9 am to 5 pm), at 702-3111.

To log in to any multi-user computing system (mainframe or minicomputer), you need a terminal.

So the first order of business is to find a terminal. You can also use a microcomputer which emulates a terminal, using software designed for dial-up access, such as Kermit, or for network access, such as NCSA Telnet or PC-TCP.

Access from the campus network

If you are using a microcomputer on the campus network — such as those at Academic & Public Computing’s public computing sites and in networked residence halls — you can reach kimbark, quads, and ellis (and most multi-user systems on campus) with ease. You can also connect to them from other multi-user systems on the network, using versions of the Telnet program. (For information on Unix versions of Telnet, type *man telnet* on your Unix machine.)

The communications programs NCSA Telnet and SU-Mac/IP are available for Macintoshes at no charge from Academic & Public Computing. You can find both on the AppleShare file server “Room Service,” or in the CONNECT Data Service software binders at the front desk of many residence halls.

Using your network communications software, open a connection to "quads.uchicago.edu" (or ellis, or kimbark). In a little while, you should be prompted to log in. (Skip to "Logging in" below.)

Dial-up access

You can access multi-user computing systems on campus through any one of these dial-up devices:

- a directly connected terminal (such as those in some offices and at APC public clusters);
- a terminal or microcomputer with a modem and telephone line;
- a terminal or microcomputer with an IBX ITE-DOB (integrated telephone equipment/ data option board).

Gandalf

Whether you use a directly connected terminal, a modem, or a digital phone with a data option board, you'll be connecting to quads, ellis, or kimbark through the Gandalf multiplexing (telephone switching) hardware. The Gandalf allows many users to access shared campus systems over just a few telephone lines. Do the following:

1. Turn on your terminal or microcomputer. If necessary, run your terminal emulation software.
2. Set up your terminal. You should set your terminal to 7 data bits/even parity, though for transferring files to and from quads or ellis you may wish to set it to 8 bits/no parity. Consult the documentation for your terminal or emulation software as to just how to do this. If you are using a terminal at an APC-managed site (U-site, Regenstein cluster, or Crerar cluster), you will find instructions posted near the terminal.
3. Press the return key (on directly connected terminals), or dial Gandalf.

If your terminal is directly connected to Gandalf, you don't have to dial anything; just press the return key until you see this banner:

University of Chicago Computing Organizations

Gandalf PACX 2000

and the prompt `ENTER CLASS.`

Otherwise, depending on your modem speed and whether or not you are on a campus phone, dial one of the following numbers to connect to Gandalf:

Campus IBX phone and modem (300–2400 bits per second): **5-8890**

Campus IBX phone with Data Option Board (300–9600 bps): **5-3600**

Off-campus phone and modem (300–9600 bps): **753-0975**

Once you get an indication that you have reached Gandalf, such as hearing a high-pitched carrier tone, or seeing a `CONNECT xxxx` message, press the return key until you get the `ENTER CLASS` prompt as above.

Tip

ENTER CLASS **tip**

This will connect you to the terminal server called "tip." Tip allows your terminal to communicate with computers, like quads, ellis, and kimbark, which are on the campus network but are not directly connected to the Gandalf multiplexing system. After typing *tip*, hit the return key until you see the following (it sometimes takes a while):

Enter 2 or 3 carriage returns for to allow for speed recognition.

NOTE: The server assumes EVEN parity 7 databits when you first logon.

CONNECTED

University Computing Organizations Terminal Server

cc-tip>

If, and only if, you have set your terminal to 8 bits/no parity (check your reference sheet or manual for the proper settings), then type

cc-tip> **terminal download**

to ensure that tip's settings match your terminal settings. If they don't match, file transfers will fail.

cc-tip> **quads**

Trying QUADS.UCHICAGO.EDU (128.135.4.63) ...Open

(In these examples, we'll be using quads. Substitute ellis or kimbark if that's your home machine.)

From this point, you may follow the usual login procedure:

Logging in

login: **user** (your userid)

Password: (your password — it will not show on the screen)

Last login: Thu Jul 12 14:48:41 from cc-tip-1.uchicago
Sun OS Release 4.1.1 (APC-cfrftp) #2: Fri Jun 1 18:08:14 CDT 1990

... (Several important messages may follow.)

You have mail. (You might want to read it.)

TERM = (vt100)

(You will probably be emulating a vt100 terminal. Just hit the return key.)

You are now logged in to quads, and can go about doing whatever you're on for, such as reading your electronic mail.

For simple help on using quads, ellis, or kimbark, see "Getting started with Unix on quads, ellis, and kimbark".

Logging out

When you are finished, `logout` will close your session, and you will see the following:

```
Connection to QUADS closed by foreign host
cc-tip> quit
```

```
Server Disconnected
GOODBYE
```

From `tip`, you can also connect to other mainframes and minicomputers on the campus network, by typing their names (or numeric addresses) at the `cc-tip>` prompt.



Getting started with Unix on quads, ellis, or kimbark

some basic commands

This is a very basic reference. For a thorough introduction to Unix on APC's Suns, read our manual *Basic Unix on quads, ellis, and kimbark at the University of Chicago*.

For more information on each command, check the online manual (the "man pages").

Information

man command-name
man -k topic

read man pages (online documentation) on command
list man pages that deal with the specified topic

Directory manipulation

Special directory names:

{ ~ = home directory
 . = current directory
 .. = parent directory (the one above .)

<i>ls</i> directory	list files in directory
<i>cd</i> directory	connect to a directory
<i>mkdir</i> directory	make a new directory
<i>rmdir</i> directory	remove an empty directory
<i>pwd</i>	print working directory to the screen

File manipulation

<i>cat</i> filename	display file at terminal (default) without paging
<i>more</i> filename	display file at terminal with paging (and other options)
<i>less</i> filename	like <i>more</i> , but more options
<i>cp</i> file1 file2	copy file1 to file2
<i>mv</i> file1 file2	rename file1 to file2
<i>mv</i> file directory	move file to directory
<i>rm</i> file-list	remove all files in list (<i>Can't be undone!</i>)
<i>diff</i> file1 file2	compare file1 to file2
<i>grep</i> pattern file-list	search for a text pattern in the files
<i>compress</i> filename	make file smaller
<i>uncompress</i> filename	restore compressed file
<i>emacs</i> filename	use the editor <i>emacs</i> to edit the file
<i>teachemacs</i>	run the on-line tutorial for the editor <i>emacs</i>

Printing

<i>lpr -Pprinter</i> filename	{ print file on the specified printer
<i>lpr -Puslw1</i> filename	
<i>enscript -Puslw1</i> filename	
<i>lpq -Pprinter</i>	
<i>lprm -Pprinter</i> username	
	print file on Usite LaserWriter #1
	get PostScript printing at Usite (has lots of options)
	check status of specified printer
	delete your username's job on specified printer

Usite has more than one printer; you can substitute, for example, *uslw2* for *uslw1* in any of these commands. If you live in a residence hall, you can substitute the name of your residence-hall laser printer.

To avoid constantly specifying your preferred printer, add the command

setenv PRINTER uslw1 (or your printername)

to the file ".cshrc" in your home directory, or type it each time you log in. There is no default printer; you must specify one somehow to get output.

System information

<i>date</i>	show the date and time
<i>w</i>	list current users, system load, and other info
<i>finger</i> name	look up a specific user (by name or username)
<i>finger</i> name@machine	look up a user on another system on the network
<i>msgs</i>	read ephemeral system messages

Security

<i>passwd</i>	change your password
<i>chmod</i> mode filename	change the protection mode on a file
<i>umask</i> mode	set default denied permissions on new file (put in your .cshrc file)

Processes

command &	run command in the background so you can do something else
Control-Z (press Control key and Z key simultaneously)	suspends the foreground process
<i>bg</i>	backgrounds a suspended process
<i>jobs</i>	list existing jobs
<i>ps -ux</i>	similar to <i>jobs</i> , with more options; also displays all processes, which <i>jobs</i> doesn't
<i>fg</i>	bring a job to the foreground
<i>kill -9</i> jobnumber	terminate specified job with extreme prejudice (try <i>kill</i> first — it ties up loose ends)

Communications

<i>mail</i>	read your mail
<i>mm</i>	read your mail in a better way
<i>talk</i> username	request online talk session with another user (try <i>ntalk</i> if <i>talk</i> doesn't work)
<i>telnet</i> machine	connect to another network machine to log in
<i>ftp</i> machine	connect to another network machine to transfer files
<i>kermit</i>	transfer files over dial-up lines

When you're done with a session

<i>logout</i>	end session and get off machine
---------------	---------------------------------



An introduction to Usenet news

Introduction

This document is intended as a general introduction to Usenet. If you're a first-time news user, you'll probably want to read "Reading/posting Usenet news with *trn* at the University of Chicago" as well. If you're a more experienced news user, you may also want to see "Netiquette": a summary (Usenet posting etiquette)."

What is "news" and why do you want to use it?

Usenet is an anarchic collection of thousands of machines worldwide which have agreed to ship **news** (information) to each other, in the form of **articles** (individual messages) tagged with **newsgroup**, or topic, headings. Like a bulletin-board system, news allows you to interact with a wide variety of strangers who share some interest; like electronic mail, news is an international effort.

People participate for the same reasons they might want to subscribe to a magazine, or write a letter to the editor of a newspaper, or go to a coffeehouse or cocktail party for conversation. Usenet participants can "post" their own articles, follow up to other writers' articles, send electronic mail responding to others' articles, or just read about any of hundreds of topics that interest them. Newsgroups cover subjects ranging from bicycling and movies to literature and politics to hundreds of scientific and technical areas.

How Usenet news works

Articles are written and posted by people on any of the thousands of machines which make up Usenet. Each article is posted to one or more newsgroups; it is then copied from its original site to every other site on Usenet which takes the newsgroup(s) to which the article belongs.

News is stored at each site in some central location, where anybody can read it (and, in most cases, contribute to the simmering stew). Reading and posting are generally accomplished with the help of special software packages called **newsreaders**.

Newsgroups and hierarchies

Understanding newsgroup names

Each newsgroup is a forum on a particular topic. For example, you might want to read about science fiction, or the C++ programming language, or Jewish culture. Newsgroup names reflect their subjects — for example, `rec.arts.sf.movies`, `soc.culture.jewish`, and `comp.lang.c++.`

The most common complaint we hear about Usenet news on campus is that there's so much to choose from. At this writing our campus news server, **uchinews**, carries around two thousand newsgroups — and no one has the time to read more than a small fraction of those; any given group may receive hundreds of articles a day. It doesn't look quite so daunting, though, if you know a little about how newsgroups are organized.

Dots in newsgroup names show that the names are hierarchical:

`rec.arts.sf.movies`: science fiction is a subset of the arts, which are recreational;

`soc.culture.jewish`: "Jewish" is a subset of "culture," and all culture newsgroups can be found under the "soc" (social) **hierarchy** of groups; and

`comp.lang.c++.`: the C++ language is a subset of computer topics.

Newsgroup names are chosen this way to show the logical relationships between them; this makes it easier for sites to manage each type of newsgroup, and for you to easily locate appropriate newsgroups. (On most machines, articles are also stored hierarchically; see "Local setup" below.)

So if you were interested in college basketball, you might look through the "rec" groups for those dealing with sports, and see that one of the basketball groups is called "rec.sport.basketball.college".

Other major Usenet hierarchies are "talk," for subjects generating extended discussion (like `talk.abortion`, `talk.rape`, or `talk.religion.newage`); "sci," for scientific topics; "news" for groups discussing Usenet news itself; and "misc" for miscellaneous Usenet newsgroups (such as `misc.consumers`).

Many Usenet sites, including uchinews, also carry a set of alternative and regional hierarchies which are not considered part of mainstream Usenet, but which are handled exactly like other newsgroups. These include "alt," the first alternative hierarchy; "bionet," for biological research topics; and "gnu," for groups discussing projects of the Free Software Foundation. Regional hierarchies available on campus include "uchi," for University of Chicago topics; and "chi" groups, for topics specific to the Chicago area.

What newsgroups are available?

While you can figure out many newsgroups simply from their names, a brief description is often useful. For a complete, current list of newsgroups carried by uchinews, you could log in to quads, ellis, or kimbark and look at the file `/usr/local/lib/news/newsgroups`, which contains a one-line description of every one of the thousands of groups carried at the University. (You can read the file into your favorite editor for browsing, or make yourself a copy for editing and sorting.)

You can also get a copy of this file from Academic & Public Computing's campus information server, "UCInfo" (see the *APC Resource Guide* for details on UCInfo).

Getting started

Reading news

To read any newsgroup of your choice, simply start up your newsreader. On quads, ellis, or kimbar, where you either already have an account or can quickly activate one, the newsreader we make available is called *trn*. Just type *trn* at the Unix shell prompt, and you're on your way.

If you generally use another shared system on campus, you should ask your system administrator which newsreaders are installed. Some of the more common ones are *trn*; another, similar, package called *nn*, and an ancestor of *trn*, known simply as *rn* — all for Unix systems. VMS users may find a package called *ANU News*. Some campus NeXT systems have *NewsGrazer*. While newsreaders have been written for the Macintosh (e.g., *InterNews*) and MS-DOS machines (e.g., *Trumpet*), we cannot recommend any of them yet.

Your newsreader should be set up to know about our news server, uchinews.uchicago.edu. Once set up, it will manage your personal list of subscribed newsgroups; the software will show you all available (and unread) articles in each newsgroup you read. Since *uchinews* keeps articles in most newsgroups for 7–18 days, when you first read a newsgroup, you'll be able to see all the articles available from the last week or two.

Most newsreaders have some kind of internal help. In *trn*, which has extensive help at every level of the program (type 'h' at any point), one of the first screens of information you see will tell you the basics of what to do, and where to get more help; it will also tell you to read the articles in *news.announce.newusers* (if those articles aren't there, look for copies in the directory */usr/local/doc/news/newusers* on ellis, quads, or kimbar — or on our campus information server, UCInfo).

Replying to articles

You can reply to articles in a newsgroup with your newsreader's "reply" command, which fires up e-mail software to send a reply directly to the author of the article. In most cases, this is a better idea than posting a followup article; you should post only if your reply is of interest to other readers of the newsgroup.

Please check to see that the address generated by the e-mail software is a valid one, and matches the address in the author's signature, if any. For information on understanding various e-mail addresses (Internet, BITnet and UUCP), see APC's document "Electronic mail addressing to/from the University of Chicago."

Technical digressions

Usenet and "real" networks

Usenet is not an actual physical network; it is a "logical network" consisting of all the machines in the world which exchange news. Articles can be transferred using the Internet, or phone lines, or CD-ROM, or station wagons full of magnetic tape. (A few newsgroups are "gatewayed" from mailing lists, meaning someone has set up software such that all messages to a mailing list get funneled into a news system, and thus to the rest of Usenet.) To be "on Usenet" means that you have the ability to read news; there is no such thing as a Usenet address.

Usenet is not equivalent to the Internet. The Internet also carries electronic mail, file-transfer, nameserver, and other traffic; Usenet, as explained above, travels by many routes besides the Internet.

The University, however, exchanges news via Internet connections with about fifteen other sites, most of them other universities. We receive more than 70 megabytes a day at this writing. U of C readers, together, read

more than seventy thousand articles from uchinews each day. University of Chicago faculty, staff, and students post more than six thousand articles each month, making uchinews.uchicago.edu one of the busiest academic sites in the country in terms of news volume.

Local software setup

News articles are stored in a directory tree on uchinews called /usr/spool/news, which is not visible from other Suns in Academic & Public Computing's cluster — such as quads, ellis, or kimbark.

The news system on uchinews consists of this storage area, known as the “news spool”; the transport mechanism, NNTP (Network News Transfer Protocol), the software which moves news between uchinews and other Internet machines; and C News, the software which manages and files incoming news articles.

All machines on campus may read news from uchinews.

Newsgroup culture and netiquette

While it is sometimes easy to forget in the give-and-take of Usenet, all the participants behind the screens are human. To make interaction easier and more pleasant, rules of conduct have evolved, a kind of Usenet etiquette — “netiquette” for short.

Imagine that you are attending a party in a foreign country. You would probably not walk blindly into a group of people at the party and begin talking, without knowing any of the people and what they were talking about, or a little about their culture. In the same way, it's an excellent idea to read the introductory materials on Usenet culture and etiquette, and to know a little about a specific newsgroup before you post to it (by first reading a few days' worth of articles there).

Many newsgroups have their own “Frequently Asked Questions” (FAQ) articles; you can find these in the newsgroup news.answers. Before you ask a question in a specific group, it's a good idea to check the FAQ first.

Before you attempt to post news, you must be familiar with the introductory articles in the newsgroup news.announce.newusers. If the complete set (there are about two dozen) is not there when you read that newsgroup, you can find copies in the directory /usr/local/doc/news/newusers on quads, ellis, and kimbark — or on our campus information server “UCInfo.” Be especially careful to read: “Rules for posting to Usenet,” “A primer on how to work with the Usenet community,” and “Answers to Frequently Asked Questions.”

If you already have some experience with news and would like a refresher, read APC's summary of Usenet posting etiquette in our document “‘Netiquette’: a summary”.

Remember that access to Usenet is not a right. The University imposes certain restrictions on your use, including the expectation that you'll respect netiquette. If you're uncomfortable with restrictions on your use, you can set up your own site (we'll be happy to help you do so), or pay for an account on a public-access site; a list of the latter can be found on quads and ellis in the directory /usr/local/doc/public-sites. For more information on responsible use, see the *APC Resource Guide*.

Posting your own articles

Once you've read the netiquette materials, you might try posting an article yourself. A good place to do this is in the newsgroup `uchi.test`, which is designed for local test articles. (Never post tests to a non-test newsgroup — you'll annoy its readers, and waste a good deal of money transmitting your article to sites which don't want test articles.)

Whether you're posting a new article or following up to someone else's article, you'll need to know what the article's **headers** mean.

Editing the headers

No matter what newsreader you use to post, you will usually pay most attention to the "Subject:" and "Newsgroups:" headers.

Subject:

Fill in your subject if you're beginning a new thread of conversation. If you're following up someone else's article, please make sure that the Subject: line is still relevant to the topic of discussion; if it isn't, change it.

Newsgroups:

If you're beginning a new thread, fill in one or more appropriate newsgroups on this line.

If you want your article to go to more than one group, you should **crosspost** it, meaning that you list all newsgroups on the same line, with commas between each:

Newsgroups: `uchi.test,chi.test`

By doing this rather than posting separately to each group, you ensure that your article need only be read, transmitted and stored once, no matter how many groups you post it to. (Obviously, don't go overboard; you really shouldn't post any article to more than a handful of newsgroups.)

If you're following up an article, the Newsgroups: line will be filled in by your newsreader. If there is more than one group listed, *please* check to see that you want your article to go to every one of those groups, and edit the list if necessary.

Followup-To:

Because you might want to call your article to the attention of more than one newsgroup, not all of which are appropriate for followups, you may want to specify a single group in which the thread should be continued.

One very good reason to double-check your Newsgroups: header, above, is that authors of articles you follow up may have set *their* Followup-To: lines to inappropriate — or nonexistent — newsgroups.

If you want people to reply directly to you, and not to follow up publicly, fill in the word "poster":

Followup-To: `poster`

(Don't use an e-mail address here.)

Distribution:

If you are posting an article to a regional newsgroup (like `uchi.test`), this may be filled in for you: “uchi” would mean that your article would only be copied to machines at the University of Chicago and its affiliates.

Otherwise, you should think about how far you want your article to spread: is it appropriate only to readers in Chicago (a car-for-sale ad, for instance)? Should everyone on Usenet in the world see it? Distributions you can use are:

local:	uchinews only
uchi:	news servers at the University of Chicago and its affiliates (like Fermilab and Argonne)
chi:	Chicago area
il:	Illinois
usa:	United States
na:	North America
world:	everywhere on Usenet in the world

(You might also, in certain newsgroups, use “inet”: all machines on Usenet which receive news via the Internet. You cannot, unfortunately, use a distribution other than those listed here — to limit a request for information from Texas to readers in the “tx” distribution, for instance.)

Summary:

Keywords:

These are straightforward. If you want to add a line summarizing your article, or a brief list of important topics or concepts in your article, list them here. Most people don’t use them, though.

Expires:

The date your article should be expired (removed from news servers), if this is sooner than the expiration time at most sites. You should use this line only in certain rare instances.

Organization:

If you don’t specify one, this will be filled in by the software, as “University of Chicago.”

Editing your article

Now is the moment of truth: what are you going to say? Write your article; be sure that your text is separated by at least one blank line from the headers, and that you’ve edited down any included text to the minimum necessary.

Remember that many newsgroups have special rules — about marking spoilers, rotating questionable material, and so on. (You should have already checked the FAQ posting for the group, if any.)

You can have your newsreader append a signature automatically, if you choose — containing your name, e-mail address and perhaps a brief quotation. Remember to keep the signature to four lines or fewer.

Finally: it is a very good idea to double-check the headers before you tell your newsreading software to go ahead and post your article. Trust us.

Automatic headers

The news software will fill in these headers for you:

From: Your name and e-mail address.

Path: The path your article has taken — which machines have copied it, so far.

Message-ID: A unique identifier for your article.

Sender: `news@uchinews.uchicago.edu`, the address to which problem reports will be mailed if necessary.

Date: The date and time (in Greenwich Mean Time) your article was received by uchinews.

Checking your article

Shortly after you post your article, you should take a look at it using your newsreader. (Wait a few minutes for your article to reach uchinews and be filed in the appropriate newsgroups.) If you find you've made a serious error in posting, cancel your article right away, using your newsreader's "cancel" command: the fewer systems a bad article is copied to, the better for everyone concerned.

Learning more

Using the software

The basics of reading, posting, and replying to articles depend on the mechanics of your particular newsreader. (To print an article, just save it into a file on disk, edit out any unnecessary headers, and use your favorite print command.)

For information on doing these things using *trn*, please see APC's document "Reading/posting Usenet news with *trn* at the University of Chicago."

Each Unix system with a newsreader installed has a man page for that newsreader. On kimbark, quads, and ellis, we have man pages for *trn*. Most newsreaders have internal help as well; to receive help in *trn*, for example, type an 'h' at any point. (If you're using a package like *gnus* or *nn* to read news, you can learn more from the group `news.software.readers`.)

If you read news from a non-Unix shared system, consult your system administrator about available documentation.

News in general

Once you've read this memo and the documentation for your preferred newsreader, you can ask basic questions about news on the Academic & Public Computing Hotline (Monday through Friday, from 9 am till 5 pm, 702-3111), or mail them to `advisor@midway.uchicago.edu`.

If your question is more detailed, if you'd like to report problems with the news on APC's public Suns, or if you have suggestions about news, drop a note giving the specifics to the U of C news administrator at news@uchinews.uchicago.edu.

We recommend, when you first begin to read news, that you follow some of the "uchi." newsgroups, and [news.newusers.questions](#). The former will give you a sense of how news works, and the latter is an excellent source of answers for novice news users — if you have questions that Academic & Public Computing staff can't answer about news, you can ask them in this group. (Please ask us for help first, though.)

Enjoy!



*Using the University Online Directory with Unix *ph**

The University's Online Directory contains information about faculty, staff, and students at the University of Chicago. Using a program called *ph*, on a Macintosh or Unix machine, you may obtain this information. (You may even use *ph* to get information about people at other Universities using the same directory system.) Entries include an easy-to-remember mail address. *Ph* calls this an "alias", and it may be used as an address to send electronic mail, if *ph* has been told which mailbox should receive that mail. Some people in the directory have chosen to include other information, such as office location, office hours, and phone number.

You can also use *ph* to add to or change the information in your own entry.

Ph is currently available on quads, ellis, and kimberk — Unix machines maintained by Academic & Public Computing. It can also be installed on other Unix computers on campus by their system administrators.

To help you get started using the Online Directory, we have included several examples which show how to use the *ph* program. For more detailed information, use the online help in *ph* (see "For more information," below). For each example, you should press the return key after typing in the line. First the general format of each command is given, then an example of what would be entered by a person named Vita Excolatur.

Retrieving information

To access the Directory, you can first log in to quads, ellis, or kimbar, or other machines where *ph* is installed. After logging in, type "ph" to start the *ph* program. Once you get the "ph>" prompt, you can issue commands to the Online Directory. To get information about someone, type "ph Firstname Lastname" at the "ph>" prompt (be sure to include the "ph" before the name). For example, Vita's entry can be found by typing "ph Firstname Lastname", like this:

```
ph Vita Excolatur
```

and *ph* will return the name, title(s)/department(s), alias, and electronic mailbox (if available). To find your own entry, type the command with your name in the same way.

All information contained in an entry may be accessed by typing "ph Firstname Lastname return all", like this:

```
ph Vita Excolatur return all
```

You may also limit the information returned. For example, to find out only an alias, you would type "ph Firstname Lastname return alias", as follows:

```
ph Vita Excolatur return alias
```

The *ph* program uses a "pager" to print out its information, so that no more than a screen of information is displayed at one time. As each screenful is displayed, the word "More" appears at the bottom of the screen to tell you that there's more output. To go to the next screen, press the space bar. After all the information has been displayed the word "END" appears at the lower left corner of your screen. Typing "q" will return you to the "ph>" prompt. To exit from the *ph* program, you may type either "exit" or "quit" at the "ph>" prompt.

Modifying your entry

In order to change your entry in the Directory, you must first log in to the Directory using your alias and a password. You may have received your Ph alias and password in a "claims" letter. (These are not the same as your Unix username and password.) If you do not have this information, visit Academic & Public Computing, at 1155 E. 60th Street; go to the third floor and follow the signs. You can always find your alias by using the *ph* command as described above.

After logging in to quads, ellis, or kimbar, you may change the information in your Directory entry by typing "ph", and then, after getting the "ph>" prompt, by typing "login alias":

```
login v-excolatur
```

Ph will prompt you for your Directory password, which you should then enter. The password will not print when you type it in. You may then modify an entry by typing

```
make field-to-be-modified = "new-contents-of-field"
```

For example, Vita would enter an electronic mailbox address as `vexcolat@midway.uchicago.edu`, by typing:

```
make email="vexcolat@midway.uchicago.edu"
```

A list of all of the fields which exist in the Directory may be obtained by typing "fields" at the "ph>" prompt. Some fields cannot be modified. These include the name, department, appointment and alias fields.

More information

These instructions provide only the basics of accessing and modifying Directory entries. The *ph* program contains extensive internal help describing many of the other features of the *ph* program. Typing "help" after running *ph* will provide a list of topics on which help is available; typing "help commands" will provide you with a brief synopsis of the available commands; and, typing "help topic" will provide help on that topic (e.g., "help fields"). For all commands, the output is displayed using a "pager" — hitting the space bar will give you the next screen, while typing a "q" will return you to the "ph>" prompt.

You can obtain additional assistance from the APC Hotline, Monday through Friday, from 9 am till 5 pm, at 702-3111.



Obtaining and using Macintosh software from the KeyServer

Academic and Public Computing now provides limited access to a variety of commercial software for the Macintosh. KeyServer is the name of a program that helps us adhere to copyright requirements. It limits simultaneous use of each program to the number of copies which we own.

Most of the keyserved applications are not word processors, spreadsheets, or other common types of programs. They are applications most people would not ordinarily own or be aware of — such as high-end graphics and desktop publishing programs, data visualization packages, instructional software, and so on. These packages are provided, for the most part, for trial use only. If you find that a keyserved program has become useful to your daily work, you may want to purchase your own copy. Since anyone on the campus network may use these programs, you can't rely on them always being available. (Also, these packages are provided "as is"; support is not necessarily available.) Many of the manuals for these applications are available at Usite for browsing (with a U of C ID).

Obtaining and Installing the Key Access INIT

The only way to gain access to keyserved applications is to use a Macintosh computer which is connected to the campus network. Here's how:

1. Use your Chooser desk accessory to select the AppleShare device icon. If you do not have AppleShare installed on your computer, you'll need to install it from your System software disks.
2. Once you have selected the AppleShare icon, indicate which AppleTalk zone contains the server you want, in this case the 'CompCtr' zone. If you do not see the various zone names, you are not connected properly to the network; check your network cabling and make sure that you do indeed have a connection to the campus network.
3. When you have the 'CompCtr' zone, scroll through the fileserver list and select the server named Room Service.
4. Another dialog box will appear. Choose 'Guest Access' and click 'OK'.
5. A final dialog box will ask you which volume you want. Choose 'Applications'. You should now have this icon on your desktop.

Open it by double-clicking and look for the "Key Access" icon:



Key access



Applications

To be able to use KeyServed applications you must copy the "Key Access" extension into your System Folder and restart your Macintosh.

Once you've restarted your Macintosh, follow steps 1 to 5 any time you wish to re-open the "Applications" volume.

Obtaining and Using Keyserved Applications

After the KeyAccess INIT has been installed, copy any applications that you wish to use by dragging the files to your hard disk icon. These applications are stored in a compacted form on the Applications volume to save disk space and to cut down on network traffic. To uncompact each one, simply double-click on it and follow the instructions that will appear.

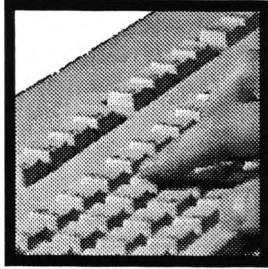
Once you have uncompactd the files, you may throw away the compacted files, i.e. those with this icon:



KeyServed applications will only run on a Macintosh (1) that has the Key Access INIT in its system folder and (2) that is connected to the campus network.

You can find updated instructions, and a description of available software, on the Applications volume. If you encounter serious problems using KeyServer software, you can call the Academic & Public Computing Hotline, at 702-3111 (weekdays, 9 am till 5 pm). For most of these packages, however, we will be unable to provide support other than the manuals at Usite — the software is provided to you to use “as is.”

If you wish to contribute software for the KeyServer, or have suggestions for software to be added, please contact the APC Hotline at 702-3111, or send electronic mail to advisor@midway.uchicago.edu.



Keeping your work safe

on any system

Many problems of data loss can be forestalled by observing some simple precautions. This document describes measures you can take to protect your work from loss due to hardware and software failures, malicious mischief, or just plain happenstance.

Backups

Probably the greatest number of problems associated with data loss could have been avoided if the work had been backed up. The most effective way to avoid losing your work is to save your work to disk frequently. Often when a computer goes down unexpectedly, the contents of the disk are preserved intact and the only information lost is what was in the computer's random access memory (RAM). Saving to disk is a very simple operation, generally involving no more than a couple of keystrokes or selecting the "Save" option on a pull-down menu.

Making a backup copy on an entirely different disk or tape provides the greatest security. The second most effective way to avoid losing any data is to make a separate "backup" copy on the same disk, but even a saved document can be lost if the entire disk it's on is somehow destroyed.

How often to back up? The best way to answer that question is to rephrase it as "How much work can I afford to lose?". If you can afford to lose a full week of labor, then back up once a week. If you can afford to only lose a day's work, back up when you're done working each day. If 15 minutes of your work suddenly vanishing would be a major loss to you, then by all means back up every 15 minutes! Obviously, making backups can become a hassle, so the effort and the interruptions to your work flow can be a factor in deciding how often you'll back up. The choice is yours.

File recovery

Computers store large amounts of information in a small space. The average Macintosh floppy disk can hold several hundred pages of text, and some hard disks hold more than 1,000 times as much. With so much information being stored in such a small place, it is not unusual for problems to come up from time to time. Computers can have problems reading files or disks even if you take care of them properly. If you have such a problem:

1. If your problem is with a floppy disk, follow the steps outlined in this section under "Damaged floppies."
2. If it is a hard disk, shut down your computer and don't use it; you may inadvertently erase your data or damage your drive.
3. Call the APC Hotline and explain your situation. (Or ask for help from a Computing Assistant at Usite.)

It is sometimes possible to recover files that have accidentally been deleted. If you accidentally delete an important file, and do not have a backup, STOP! Leave your computer on — but do not continue to use it, as you may inadvertently erase your data. Call the Hotline, or someone else who might be able to help.

Damaged floppies

Data from damaged diskettes can sometimes be recovered. If your computer refuses to read a disk that has important data on it:

1. Do not allow the computer to reformat or initialize your disk. This will erase all information on the disk and remove any chance of retrieving the data.
2. Remove the disk from the computer. Write-protect the disk — either by putting a write-protect seal on 5.25-inch disks, or by sliding the write-protect tab on the 3.5-inch variety (so that the hole is open).
3. Take your bad disk to the Computing Assistant (CA) at Usite, along with a blank one for recovered data. The CA will ask you to fill out a form, giving information on the problem, file names, and so on.
4. When there is time, one of the CAs who is trained to do recoveries will make an attempt at getting your file(s) back. However, Computing Assistants are students, so when you may most need a disk recovery (midterms and finals), the CAs are busiest with their own work and delays are the longest.
5. A Computing Assistant will call when the recovery attempt is finished. (Remember that recoveries, like other ventures in life, are not always successful!)
6. If the CAs can't solve the problem, call the APC Hotline and explain the situation. We may be able to help, or to refer you to someone who can.
7. If you decide to try and recover a floppy disk yourself, first write-protect the disk, then copy it and work on the copy.
8. Think how much easier this would be if you had a backup copy of your data.

Recovery of lost mainframe work

Backups of files on quads, ellis, and kimark are routinely made by the staff of Academic & Public Computing. However, if you make critical changes to your work frequently, you may wish to create your own backups. Of course, you should continue to save work-in-progress as frequently as your comfort level allows.

In cases where a file may have been destroyed or lost from your directory, contact the system administrator, Keane Arase, at 702-2556. The ability to recover a file depends on the timing of creation and routine backups, so there is no guarantee that any file may be recovered from backup records.

Preventive maintenance

Care of floppies

Floppy disks (often called diskettes) are a generally reliable, inexpensive, and convenient method for storing your data. They come in a variety of sizes and formats, but all store data in essentially the same manner, and have the same needs for proper care and usage. The following are some Dos and Don'ts that will help your disks function reliably for a longer time. These rules apply to all kinds of floppy disks.

Always make backup copies of important disks.

So we sound like a broken record. If something happens to your disk, it may mean the loss of hours of work, or important data that cannot easily be replaced. Keeping extra copies of data files on different disks is an easy way to save time, trouble and money.

Protect your disks.

Floppy disks are made of the same materials as audio recording tape, and the same types of rules apply in the care of your disks:

1. Never touch the disk surface. Your fingers will leave oil that may damage the disk drive or leave your disk unreadable.
2. Don't fold, staple, cut, or otherwise physically damage a diskette. Store your disks in a clean, cool place. Always keep them in protective covering, and never manually open the shutter on 3.5-inch disks; dust and dirt can damage not only your disk, but your disk drive as well. Heat will also damage disks: never leave disks in direct sunlight, or in a hot place (like in a car in summer, on a radiator, or in an oven).

Recovering data is very difficult, or impossible, from a physically damaged disk (and the attempts can be very expensive). If you treat your disks with care, this is not likely to be a problem.

3. Keep your disks away from magnetic fields. Information on floppy disks is stored magnetically on the disk surface, and magnetic fields can damage or erase the information. Some common objects that generate magnetic fields are:

- Display screens: computer monitors, TV sets.
 - Disk drives: don't put your floppy on top of a drive.
 - Magnets: stereo speakers, electric motors, refrigerator magnets, telephones that have bells rather than a speaker.
 - Power supplies: DC converters for portable stereos.
 - Security gates: those outgoing gates at the campus libraries may be strong enough to damage your disks; you might wish to hold your disks above the gates as you exit.
4. Diskettes, just like cassette tapes and record albums, wear out. Under normal use, a diskette will last about 6 to 9 months before wear becomes a concern. Frequently used disks should be replaced more often, and disks rarely or never used (such as backups) should be replaced or recopied after about 2 years of storage. You can buy new blank floppies at the Campus Computer Store, the U of C Bookstore, and local computer dealers.
 5. Do not move or bump your computer while it is in operation; this may, among other dire consequences, damage your diskettes (or your hard disk).

Some very careful folks put their name, login ID, address, and phone number on the label of every floppy disk they bring to a public site (or, if they can't put it there, then on a "Read Me" document on the disk). That way if the disk should wander off and the site staff find it, the staff can contact them. Though you may not want to go that far, you should definitely try to write something meaningful on the label of every floppy disk, so you can identify it easily to someone else, say, over the phone. If you use Macintosh floppies, it's a good habit to put your name and other identification in the information box of your disk icon (select the disk icon, and pull down "Get Info" from the "File" menu).

Finally, if you do lose your disk at Usite, the first thing you should do is check the "found disks" box by the phone in the main room. (But try not to lose your disks in the first place!)

A tip for modem users

This one's brief. Ever had a downloading session clobbered by a call from a telemarketer? If you have a modem, and you have call waiting, you may want to code into your dial-in script the command to turn off call waiting: *70 for users in our area. (This lasts for the duration of your session, and is reset for call waiting when you finish.) If you have an on-campus IBX phone, just don't order the call-waiting service on the line you use to dial out.

Surge protectors and Uninterruptible Power Supplies

If your computer is plugged into an outlet on a circuit that has large appliances (such as refrigerators or air conditioners), it will be subject to voltage fluctuations known as "spikes." Even without appliances, spikes happen when the weather changes, or the stars are wrong, or you get up on the wrong side of the bed. Spikes can damage your CPU and other devices such as hard disks and printers. We strongly advise that you use a surge protector; such a device stops spikes before they reach your computer, and provides a smooth power supply. Look for a good surge protector (likely to cost \$40 or more), since the cheap ones don't really provide much protection. Note that you'll probably have to replace your protector after it handles a major spike.

If a sudden complete power loss would ruin the experiment that's going to win you the Nobel Prize, get an Uninterruptible Power Supply. A UPS can provide you with enough time to save your data and shut down the computer, or to complete an experiment that would have otherwise been lost. Expensive, yes — but you should weigh the value of your work against the risk of losing it and the trouble of reconstructing it.

Macintosh reset switches

If you have a Macintosh with an internal hard disk, you may wish to ignore anyone who tells you not to install the reboot (programmer's/reset) switch. This includes the owner's guide, which says solemnly: "If you are not an applications developer, do not install the switch. Installing it and then using it incorrectly can result in loss of data." Beneath that it says "...reset switch. Pressing it is like turning the power switch off and back on..."

Actually, using the on/off switch causes more wear and tear to your hard disk than the reboot switch does. The manufacturer is concerned about children coming up and hitting the switch (which can be a problem in the later II series, where the switch is on the front instead of the side), or people hitting it accidentally despite a guard-tab arrangement (one accidental reboot could cause a heart attack). These may or may not be sufficient reasons to risk cutting off power to the hard disk, which the power switch does and the reboot switch does not.

If you frequently see system crashes on your Mac, and you're concerned about your expensive equipment, take a couple of minutes to install the switch. (Note that the Macintosh IIx does not provide these switches. To reset a Mac IIx, press the Control, Command (apple or cloverleaf), and power keys at the same time, and hold for at least one second.)

Passwords and other security issues

One of the disadvantages of computers and networks becoming easier to use is that you have to keep an eye on security.

In general, you should make an effort to learn about commonly-known security problems with any system you manage or use regularly. You can get information from a number of sources, including user groups, system administrators, and Usenet newsgroups.

If you're a microcomputer user, don't go away! Microcomputers have security problems too. A not-very-well-known example is NCSA Telnet's "FTP enable" feature — which, when checked, allows other people to transfer files from your Macintosh (unless you are currently using FTP yourself). The most commonly known security issue in microcomputing, though, involves viruses and related programs. See "Viruses" below.

If you use or manage a larger-scale system (from workstations on up), there are other things to know about. In Unix, problems include the use of `.rhosts` and `.netrc` files — which make things very easy for system crackers — and standard, everyday file permission mistakes which allow people to read your most personal files. We don't wish to discourage you from using Unix, or from keeping most of your files publicly readable; Unix was designed to be an open system. Just go through periodically and check to see that everything is as it should be. If you are an administrator for a workstation or larger system on the campus Ethernet, you can join a campus mailing list for security alerts by sending a request to `alerts-request@midway`.

Viruses

Viruses, and related bits of computer code such as “worms” and “Trojan horses,” are specialized programs which somehow disrupt the normal functioning of your system. They are not always designed to be malicious, but viruses, et al., often have unpredictable effects which can cause a great deal of harm. The effects vary: sometimes the programs change (or delete!) the contents of your disks; at other times they cause random effects on your screen display.

Fortunately, for most computer viruses, cures are available. These can take the form of preventative programs which keep viruses from entering your system, or repair programs which can scan your disks for the presence of viruses, then wipe them out. Virus prevention and disinfection programs for the Macintosh and MS-DOS computers have been placed on Room Service, the server for the residence-halls network. If you are not in a residence hall, you can go to Usite (or other APC clusters) and copy Macintosh virus tools from there; if you use an IBM-compatible PC, call the APC Hotline for information.

Passwords

The security issue you are most likely to encounter is the use of passwords. Passwords protect you and the systems you use from unauthorized use of your privileges.

There are a number of common-sense rules to follow in the use of passwords:

- Don't give your password to anyone — or “share” your account with friends — without a very good reason. You are responsible for your account, and you can't always tell what someone might do armed with your password. (Also, remember that if you gave your password to more than one friend, you wouldn't know who to blame if your account were compromised!)
- Don't make your password public in any way.
 - Don't write it down and keep it where someone else might find it. Especially, do not post it on your terminal (yes, people do this!).
 - Try not to let people watch over your shoulder as you type your password.
 - If you must give out a password on the phone or spell it out for someone, check to make sure that you can't be overheard.
- Have a good — that is, unguessable — password. On many systems, it is very easy for a system cracker to run password-guessing programs which test all the “obvious” passwords for a given account. These include:
 - Anything easily derived from personal information about you: your names (backwards and forwards), including your account name; your birthdate, student ID number, Social Security Number or address; names of people and pets in your family or circle of friends.
 - Anything in a fair-sized dictionary of any language; with crackers prowling the international networks, foreign-language words are not safe passwords. (If you think a sly Urdu or Gaelic reference would make a great password, you might be in for a surprise!)

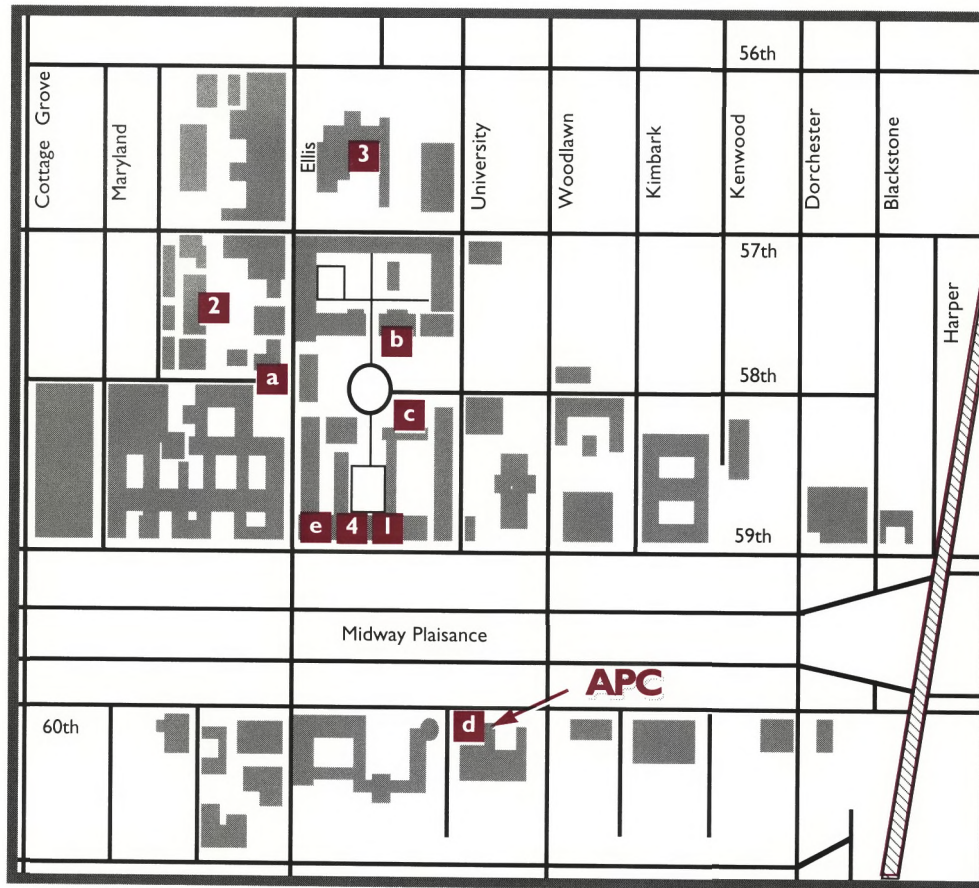
- Any drug references or swear words, all of which are well-known to computer experts. Trust us. (Because some of our other vices include computer games and speculative fiction, “xyzyzy,” “Yendor,” and “Gandalf” are similarly bad choices.)
- Anything short, or all in one case (LIKETHIS, or thishere, or 124578) without a punctuation character.

So what's left? Believe it or not, quite a lot. Good passwords mix letters (upper- and/or lower-case) with numbers or punctuation characters, are not so short that a cracker's program could guess them quickly, and are easy to remember so you don't have to write them down. (APC's public Unix computers enforce the first two requirements when you change your password via the “passwd” command.)

We suggest that you either combine two short words with a number or non-alphabet character between them — say, “face&top” — or use the first letters of words in a poem or phrase — like “Ybodwbat” for “...Your brain on drugs with bacon and toast.” (Obviously, don't use these examples either!) You should be able to construct a password quite easily using these guidelines.

Campus Map

[to Computer Facilities & Resources]



APC Computing Facilities

APC

Academic & Public Computing
1155 E. 60th Street, 3rd Floor
702.7151

1 APC CLASSROOM

West Tower
Harper 406

2 CRERAR LIBRARY COMPUTING LAB

Room 004
702.8923

3 REGENSTEIN LIBRARY COMPUTING LAB

Room 201
702.7893

4 USITE COMPUTING LAB

Wieboldt 310
(enter through Harper Library
or Quads entrance)
702.7894

Other Campus Computing Facilities

b COMPUTER SCIENCE INSTRUCTIONAL LAB

Ryerson Annex 178 • 702.1082

d SOCIAL SCIENCES/ PUBLIC POLICY COMPUTING CENTER

Rooms 041–062
1155 E. 60th Street • 702.0793

a CAMPUS COMPUTER STORES

Sales • Computer Repairs
Bookstore Building, Room 340
702.6086

c GSB COMPUTING LAB

Walker 307 • 702.7149

e WALSH HUMANITIES COMPUTING FACILITY

Classics 14 • 702.3542



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